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LONDON

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A MONTHLY

Record of the Medical Sciences.

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VOLUME II.

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PREFACE.

The London Journal of Medicine was established for the two-fold purpose of diffusing scientific and practical knowledge among the profession, and of promoting true "medical reform", by striving to inculcate, by precept and example, feelings of brotherhood, and generous principles of action. It has not been part of our plan to write elaborate exposures of the practices of quacks, or of the systems of quackery which are now most in vogue: we have believed that we were best guarding the domains of medicine from the farther intrusions of homœopathy, globulism, hydropathy, mesmerism, and other similar scandals, by advocating the necessity of students having their minds trained to think and reason, before they are launched upon their career of medical study. A good preliminary education, combined with integrity, are the only defences which any man can have against lapsing into quackery, or indeed into any error or immorality. Remembering the high ends for which the work was established, we have diligently and impartially collected information from every source, whence it could be obtained; carefully, and we trust successfully, striving to keep ourselves free from party influence, or personal bias.

In several respects, this volume surpasses its predecessor; which, from the prevailing cholera epidemic, had less variety. Greater attention and scope have been given to the Diseases of Young Children; and in this, as well as in other respects, the Digest of the Journals has been improved. The Reports of Societies have been more condensed; and, in this way, space has

been gained for Dr. Henry's valuable Classified Catalogues of the Papers in the British and Foreign Journals.

The experience of the last two years, and ampler resources, enable us to announce that two very important improvements are to be introduced into the new volume. The one is an extension of the range of the Bibliographical Record, so as to include notices of all the medical books, of any note, which appear in France, Germany, and other Foreign countries. The other is the introduction of a new department into the JOURNAL, to be entitled THE HOSPITALS OF LONDON; in which we propose to give, to the best of our ability, the movement of epidemics; the general news and statistics of Metropolitan Hospitals, Dispensaries, and Asylums, so far as they can be obtained; combined with the marrow of the clinical teaching of the physicians and surgeons of these institutions. If we are enabled to carry out our scheme with even one half of the completeness which we ultimately hope to attain, we shall be able to excavate and arrange such a mass of instructive clinical experience, as has never yet been laid before the profession.

The following is a list of the authors of the Original Articles which have appeared during the year now closed:—

ALISON, S. SCOTT, M.D.
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LONDON, *December* 1*st*, 1850.

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JANUARY 1850.—No. XIII.

ORIGINAL COMMUNICATIONS.

ON THE USE AND ADMINISTRATION OF TANNIC ACID IN VARIOUS DISEASES.

By S. SCOTT ALISON, M.D., Licentiate of the Royal College of Physicians of London.

DURING the last six years, I have been in the constant practice of prescribing TANNIC ACID, usually termed Tannin, in various diseases. I was led to its employment, by a knowledge of the potency of many substances into whose composition it largely entered. It recommended itself likewise by its bitter and intensely styptic taste. Its remarkable chemical effect upon gelatine, and the alleged wholesomeness of the tan-yard, in some measure also contributed to cause me to make trial of this agent. In all the diseases, and, with two or three exceptions, in all examples of the diseases in which I have employed it, marked advantage has attended or followed its use. I can conscientiously say, that, on the whole, the results have been such, in respect to promptitude, certainty, convenience, and safety, as I have not procured from any other remedial agent. This testimony in its favour is given only after due analysis, and deliberation; and I am so convinced of its correctness, that I have decided upon continuing to consider and to use Tannic Acid, as one of the most efficacious and valuable articles in the stores of the pharmaceutist. It is to record the grounds of this decision, and to point out the conditions and circumstances under which it is useful, as well as to indicate the most advantageous mode of employing it, that the present communication is designed. The facts to be related, it is thought, possess some value, and appear to justify a more extensive and general employment of this remedy, than it has yet obtained.

The remarks are arranged under the following heads:

I. HISTORY AND PROPERTIES OF TANNIC ACID.

II. ITS PHYSIOLOGICAL AND THERAPEUTICAL EFFECTS.

III. MODE OF ADMINISTRATION.

I. HISTORY AND PROPERTIES OF TANNIC ACID. Tannic Acid has been received into the human stomach since the first days of medical

science, but only as an ingredient in numerous bitter, astringent, and aromatic medicines, and in some vegetable articles of diet. Unknown as a separate proximate principle, it doubtless contributed much to the efficacy of the medicines, into the composition of which it entered. In these substances, Tannic Acid is combined with other ingredients, some inert, some possessing properties different from those of Tannic Acid, and others closely resembling it in their effects. The first ingredients must be useless, and would unnecessarily and inconveniently increase bulk at least, in some forms for administration; the second would, in most instances, injuriously modify or interfere with the action of the Tannic Acid; and the third, though auxiliary and useful, could seldom be present in that proportion which would best suit the exigencies of different diseases, ages, complications, and stages.

Since the discovery of Tannic Acid as a distinct vegetable proximate principle, many years ago, according to Dr. Murray,[1] by Seguin, and particularly since the researches and experiments of Pelouze, this agent, in its pure form, has been employed occasionally, to a limited extent, in the practice of physic. Dr. Burns,[2] of Glasgow, mentions, in his work on Midwifery, that it has been recommended in chlorosis in doses of *one hundred grains* daily! Dr. Pereira[3] says: "given to dogs to the extent of twelve grains, it caused constipation. In doses of two and a half grains, it produced constipation in the human subject." Dr. Todd[4] has recently recommended it as a powerful astringent; and Dr. Garrod[5] has lately given some account of its employment. I mentioned its utility in goitre[6] connected with anæmia, in a paper on that subject. I have reason to believe that it is employed by several practitioners in London; and I have been informed by an eminent pharmaceutist, that it is now more frequently prescribed than formerly. For years past, I have recommended it to the notice of my professional friends. Nevertheless, there can be no doubt, that the use of Tannic Acid by the profession is not so general, as with advantage it might be. Even those who employ it, do so, I believe, in only a very few diseases; and in these, for the most part at least, merely as an astringent. Few practical hints are to be found in medical works, for the administration or application of this potent medicine. While Dr. Pereira[7] informs us, that twelve grains produced dryness of the mucous membrane of the bowels, and a collection of hard fæces in the colon, and that it may be given in doses of three grains, we learn from Dr. Burns (as already stated), that some have recommended it in doses of a hundred grains daily. It therefore appears, that a few practical suggestions on the subject are yet a desideratum.

Tannic Acid exists in a great number of vegetable productions. It is present in tea, and in many culinary vegetables. It is the combination of the Tannic Acid in these articles of diet with the peroxyde of iron, which causes the dark colour of the alvine evacuations of those taking

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[1] Murray's System of Materia Medica. Fifth edition, p. 321.
[2] Burns' Principles of Midwifery. Seventh edition, p. 147.
[3] Pereira's Elements of Materia Medica, p. 736.
[4] Medical Gazette, 1849.
[5] Lancet, 1849.
[6] London Journal of Medicine, June 1849.
[7] Pereira. Op. cit. p. 736.

the salts of that metal. And it is owing to the absence of this acid in the aliment, that iron, when exhibited to children fed solely on milk diet, fails to blacken their evacuations. The articles which contain Tannic Acid in greatest abundance are certain medicinal substances,—catechu, kino, galls, and oak-bark. Numerous barks likewise contain Tannic Acid in large quantity; these are the chestnut, the willow, the ash, the sycamore, the larch, the birch, the blackthorn, the hazel, and many others, of all which it is the "true principle of astringency."[1] It is chiefly prepared from gall-nuts, (which afford forty-five or fifty per cent.)

Tannic Acid is of a lively yellow, or canary-colour, inodorous, somewhat bitter, and intensely styptic to the taste. It is soluble to a very considerable extent in water, and in alcohol, not highly rectified. Its solution slightly reddens litmus. The alkaline carbonates it decomposes; and with most metallic solutions it throws down precipitates, which are tannates of their respective bases. Dissolved in water, if not exposed to the atmosphere, it may be long preserved without change; but if otherwise, it soon decomposes, absorbing oxygen, becoming turbid, and depositing gallic acid.[2] Tannic Acid is by no means expensive. It may be had, in a pure form, for less than three shillings per ounce.

II. Physiological and Therapeutical Effects of Tannic Acid.

1. As an Astringent, I have found Tannic Acid exceedingly efficacious, certainly as much so as any other agent, vegetable or mineral, that I have ever employed. It has equalled the salts of lead, copper, and zinc, without producing any of those poisonous effects which are liable to follow the free use of the salts of the first two metals.

Internal Use. In the *chronic bronchial catarrh* of weakly and elderly persons, unconnected with disease of the heart or great blood-vessels, and attended with copious and debilitating expectoration, the administration of Tannic Acid by the mouth, in doses of one, two, and three grains, two or three times daily, has greatly and gradually abated the secretion, relieved the frequent cough, and improved the strength of the patient. In the second stage of *pulmonary consumption*, viz., that of softening, when bronchial catarrh has been present to a large extent, weakening the patient, causing frequent cough, and disturbing sleep, the same results have followed, and have greatly contributed to the comfort and welfare of the sufferer. But in pulmonary disease, the greatest amount of benefit has obviously been derived when large cavities have been present in the lungs, the walls of which have thrown out large quantities of purulent matter, occasionally mixed with blood. In such cases, the discharge has been effectually controlled, and the rate of tear and wear of the system obviously restrained, without the induction of oppression or other evils.

In *chronic diarrhœa*, which had resisted the ordinary treatment by chalk, opium, and regulated diet, and was not dependent on obstructive disease of the heart or liver, Tannic Acid, in a solid form, has proved

[1] Paris, J. A., M.D., Pharmacologia, p. 151.

[2] Simpson, Professor J. Y., in 1843, recommended gallic acid in menorrhagia. He suggested whether the antihæmorrhagic properties of some of our common astringent drugs, do not depend upon their tannin becoming converted into gallic acid within the body. *Edinburgh Monthly Journal*, July 1843, p. 661.

of surprising efficacy. In cases of severe disease, depending on an irritable weakly mucous membrane, I have not known of one failure; and of those examples connected with chronic inflammation and disorganization of the mucous membrane, only two proved beyond the influence of this remedy. These two cases occurred during the last autumn, while cholera was prevalent; and the disease of the mucous membrane was extensive. The complaint in one of the examples was of long standing, and the patient had been addicted to habits of intemperance. But it was not Tannic Acid only that failed; the salts of copper, iron, lead, and zinc, in large doses, proved to be of no more avail. In this form of disease, Tannic Acid was administered in the form of pill, in combination with opium.

In *leucorrhœa*, unconnected with inflammatory action, I have found Tannic Acid efficacious in restraining the discharge, and in increasing the strength of the patient. The aqueous solution, combined with a small proportion of dilute nitric acid, was the form usually employed in these examples of disease. In *menorrhagia*, not dependent on a plethoric state of the system, or on local congestion, it was also serviceable, administered in the same form.

The excessive *sweating in phthisis*, and in other diseases running on to a fatal termination, has been usefully restrained by the use of Tannic Acid, combined with dilute nitric acid; and the habitual cold damp upon the skin of soft, weakly constitutions has been corrected by the same means. I have had no opportunity of testing the virtues of this remedy in the *hæmorrhagic diathesis;* but I am strongly disposed to believe they would be found very considerable, conjoined with other suitable means. I believe it would prove serviceable in *albuminuria*, dependent on chronic disorganization of the kidney, and not associated with obstructive disease. When the egress of albumen results, as I believe it often does in no small degree, from reduced tone and elasticity in the organ, and is not (as in a great majority of cases) a wholesome outlet necessary for the relief of the circulation, Tannic Acid offers the promise of benefit. Such a case, however, I have not lately met with, and consequently have not had an opportunity of testing the treatment.

Local Application. In the form of aqueous solution, used as a gargle, Tannic Acid has been most useful in correcting relaxation of the throat. Sponginess and hæmorrhage of the gums have been greatly controlled by a lotion of Tannic Acid, and by the application of the dry powder. By this means, loose teeth may be retained for a time, and the impediment to articulation thereby prevented, which would result from their removal.

In *prolapsus ani* I have prescribed Tannic Acid, dissolved in water, as an injection. This remedy is particularly indicated, when the disease is associated with great relaxation of the solids. Applied to *hæmorrhoidal tumours*, free from inflammation, in the form of a fine powder, mixed with lard, it would doubtless prove more efficacious than galls, the usual remedy. It is assuredly due to the Tannic Acid which it contains, that uva ursi proves serviceable in *catarrhus vesicæ.*

In *gonorrhœa*, chronic or about to become such, Tannic Acid, applied externally as a lotion, has proved serviceable. In the latter mode, it has induced no smarting, although the parts have been tender, and

though it has been applied with little intermission for several days. It is as a *local* astringent that Tannic Acid produces the most obvious effects, as Dr. Garrod has remarked.

Of Tannic Acid as an astringent, I have merely further to say, that it is of special excellence, as an external application to the skin, when such a remedy is required. I have found it of extraordinary efficacy, when reduced to a fine powder, mixed with lard, and applied to the skin. The parts soon acquire a healthy aspect; very little of the smarting or pungency is experienced, which so generally results from the use of the salts of alumina, lead, zinc, or copper. I have found it far superior to gallic acid. By way of testing their comparative powers, I lately applied an ointment of gallic acid to one spot of psoriasis, and one of Tannic Acid to another. The strength of both was the same. The spots were of old date, and had resisted much treatment. In the course of two days, the spot to which Tannic Acid had been applied, was all but healthy; that for which gallic acid had been similarly employed, was more inflamed than before. The gallic acid had caused smarting, and brought away the protecting scales. This treatment was adopted merely to test the comparative powers of the two acids, and not as curative practice. Astringents, if they be applied in psoriasis, must be used only as subsidiary to other treatment.

2. As a Peptic ($\pi\epsilon\pi\tau\omega$, coquo), Tannic Acid is very efficacious. This I soon found, while employing it as a pure astringent. Symptoms of dyspepsia disappeared under its use, the appetite increased, flatus and sense of distension were abated at the same time; and, in several instances, the bowels, far from becoming constipated, acquiring a more healthy tone, actually became more free. A lady affected with phthisis, who has been under my care for three years, during which time she has taken Tannic Acid alternately with cod-liver oil, complained, very lately, of loss of appetite while taking the oil. The morning dose of the oil was replaced by Tannic Acid, combined with dilute nitric acid; and the result was a very striking restoration of the appetite. With such obvious improvement in the condition and action of the stomach, it is reasonable to believe, that one of the results is the formation of a more perfect chyle. The action, as a Peptic, is in accordance with the statement of one of the best writers on Materia Medica. Dr. Pereira says, "Administered in moderate doses, they (astringents) promote the appetite, assist digestion," etc.[1]

3. As a Histogenetic, in *promoting the genesis*, and in *improving the quality of the blood*, Tannic Acid, it may be inferred from what has been stated above, would probably prove effective. But that it is really so, I have the evidence of improved complexion, greater fulness of the blood-vessels, increase of strength, buoyancy of spirits, and improved secretions, in numerous examples of anæmic and other diseases, in which this agent has been long employed.

The *formation of structures in the young*, I have reason to believe, is subserved, to a valuable extent, by the long-continued administration of Tannic Acid, in moderate doses. It is nearly six years since I began to prescribe this remedy in cases of curvature of the bones in children,

[1] Pereira. Op. cit., vol. i, p. 80.

with soft shafts and enlarged epiphyses. The number of cases placed under this treatment, while I was Physician to the Northern Dispensary, was considerable; and not a few occurring in private practice were similarly treated. The general health was improved in all. The secretions, in many cases exceedingly offensive, were greatly corrected. In the course of a year or two, an obvious improvement in the shape and form of the bones was manifest. The curve was reduced; and the heads of the bones had lost no small amount of their disproportionate prominence. I have lately seen two or three children, presenting no appearance of having suffered from this affection of the bones, who, some years ago, really were deformed, and who were put under the influence of Tannic Acid, and also, it is true, of suitable regimen. In most of these examples of disease, when they came under my care, the urine contained an undue proportion of lime. This continued to be the case, at least for some time, even under the use of Tannic Acid, though perhaps not to the same extent. If Tannic Acid really possess the power of correcting the tendency to rickets, or of staying the progress of this affection, it cannot be through any astringent action on the kidney arresting the exit of an undue quantity of lime, which is only a sign or consequence of the disease, and not its cause. It must act by invigorating the general health, and by imparting a more healthy character to the formative processes, by virtue of which lime and other mineral ingredients in the blood are more forcibly attracted to, and fixed in, the osseous structure. Further evidence of the power of Tannic Acid to improve the formation of tissues, has been afforded by the increase in the volume and firmness of the soft parts of children placed under its operation, which I have frequently observed.

4. In connexion with HETEROLOGOUS FORMATIONS, Tannic Acid has been largely employed in my practice; and as far as I can judge, and with every wish to be impartial, I believe it has been operative, to a great and valuable extent, in arresting or retarding their growth. Almost every case of incipient tubercular deposit in the lungs, which came under my care, either at the Northern Dispensary or in private practice, some years ago, was treated, at least in part, with Tannic Acid; and I have been agreeably surprised to find that not a few of these very patients are now alive, some apparently not nearer the grave than at that time, and some in really improved health. I was consulted in the case of a young lady, five years ago. The apex of the right lung was solidified with tubercle, and the patient had rapidly deteriorated. Sir James Clarke saw her with me, and Dr. Watson, at a later period, also visited her. Tannic Acid was employed, after the more ordinary practice had been adopted; and though other means have been in use on different occasions, I attribute much of her present health to the acid. That lady's lung is still solidified, the respiration is bronchial, and percussion is absolutely dull; but the general health is equal to that of the other members of the family, and permits of her going abroad.

A young lady from Bow consulted me. She was considerably emaciated, had frequent cough, with much muco-purulent expectoration occasionally mixed with blood; percussion at the left clavicle was dull; the vocal resonance was augmented; the pulse was rapid; there was much sweating; and the patient, in short, was rapidly breaking up. With

counter-irritation, opium, and Tannic Acid combined with dilute nitric acid, very great improvement soon took place. The flesh increased in volume, the cough and expectoration greatly abated, and the respiration became easy. After this, Tannic Acid was made to alternate with cod-liver oil. She mended so much that, without asking my advice on the subject, she married soon after. I saw her subsequently, and found her still improving. That lady is now in fair health, and, I understand, was safely delivered of a fine child some weeks ago.

An elderly single lady lost her brother five years ago. She was deeply afflicted, and became, immediately after this loss, the subject of tubercular deposit in the apex of the right lung. Percussion was very dull over the affected lung, and there was occasional cough; but the chief symptoms were breathlessness, sweating, and rapid pulse. Dr. Watson saw her, along with me, three or four years ago, and recommended dilute nitric acid, etc. I subsequently gave her Tannic Acid, and, with intermissions, she has taken it up to this time, generally in combination with nitric acid. Cod-liver oil has likewise been employed sometimes at one part of the day, while Tannic Acid has been given at another, and sometimes for a week, alternating with the acid. That lady is still under my care. She is very little worse than she was three years ago. The tubercles have softened, but there is no cavity. The chief alteration for the worse, has been a moderate increase of the emaciation, of the cough, and of the expectoration. She is able to walk out, except in bad weather; talks with energy, has a vigorous appetite, and sleeps well. She takes, at present, Tannic Acid in small doses, (for she has a somewhat irritable stomach,) with dilute nitric acid; cod-liver oil is still occasionally employed. She has no occasion for opiates or purgatives.

Mrs. W. had solidified lung, much tenacious muco-purulent expectoration, occasional spitting of bloody fluid, and frequent cough. Small portions of a dark brown substance, apparently separated lung-tissue, were occasionally brought up. They had an extraordinary corrupted fœtor, with something of the odour of sulphuric ether or of naphtha. Counter-irritation and opiates were employed. Tannic Acid, dissolved in infusion of gentian, and combined with dilute nitric acid, was administered, with the result of improving the general health, and of checking the fœtid expectoration.

The deposition of tubercular matter, it is reasonable to believe, may be retarded by the use of a remedy which improves the health both of the solids and fluids of the body. The surrounding lung-tissue may be so beneficially acted on, as to reduce the tendency to inflammation and to disorganization. With respect to malignant heterologous formations, I have had no opportunity of seeing them under the influence of this remedy, except as an external temporary application; but I think it is consistent with what we see in other diseases, to believe that the cells of cancer may be checked or retarded in their growth by its long-continued administration. The normal formation of nutritive processes may receive such an impulse, as effectually to interfere with the almost monopolizing growth of malignant disease. With a more healthy condition of the capillaries, and a more perfect quality of blood, may we not hope for some benefit? It may be allowed, with this view, under such desperate circumstances, to administer a remedy which, if not effectual against the

major evil, will at least improve the general health; and that without the production of any ill consequence, worthy to be called by a higher name than that of inconvenience.

5. As a Nervine of a lasting character, I have found Tannic Acid useful in several cases of nervous debility, languor, and excitability. These distressing conditions have been relieved; and the benefit, in one or two examples, has been permanent. Under the use of moderate doses of this medicine, I have known even the symptoms of weakly organization,—or, as I have thought, of impending softening of the brain, such as flightiness of speech and manner, impatience of attention or of application, hasty judgments, weakness and unstable gait,—to lose not a little of their prominence. It has always, however, been my object to guard against depending on this or any other such remedy, where there has been good reason to suspect the presence of inflammatory action, even in a subdued form. When thus used as a Nervine, Tannic Acid should generally be combined with camphor, hops, or hyoscyamus. The shower-bath has been employed, and the secretions have been attended to, at the same time. Thus exhibited, I believe that Tannic Acid, by improving the natural galvanic battery, if our brain and nerves may be so figuratively designated, will really, in many cases of feeble volition and muscular action, produce not a little of that benefit which has been sanguinely looked for from galvanism and electricity, and which, when obtained, has been so fleeting,—at least in my experience.

III. Mode of Administration of Tannic Acid. For administration, Tannic Acid is well suited. It possesses no great bitterness, is free from odour, and does not induce nausea. A little sugar or syrup will suffice to cover all unpleasantness. It is perfectly safe, and may be continued for months without any evil effect. In moderate doses, it does not reduce the secretions below the healthy standard. It may be administered at all hours,—before, or during, or after meals.

Tannic Acid may be employed alone in the treatment of disease; but it is capable of exercising its virtues harmoniously with other remedies. The use of this medicine does not preclude the employment of iron, cod-liver oil, and other such means; but, on the contrary, I believe it will make them more available to the patient. It may be given at one time of the day, and the other remedies at another; or a week or a fortnight may be given alternately to each medicine. Tannic Acid, moreover, may be advantageously combined at the same moment with other means. It may be prepared with bitters and aromatics, or conjoined with astringent wines.

For diseases of the mouth, Tannic Acid may be dissolved in water: three or four grains to the ounce of water make a strong styptic lotion. It may be reduced to a fine powder, and dusted over the parts. Mr. Morson has prepared a lozenge, which is well adapted for the mouth and throat. Each lozenge contains about half a grain of Tannic Acid. Some have had added to them essence of cayenne, the more to fit them for relaxation of the fauces and glottis. For the stomach, the aqueous solution is well adapted; and, when a pure bitter is required, some infusion, such as that of gentian, may be used instead of water. When it is intended to influence the bowels, Tannic Acid is suitably exhibited

in the form of pill; and as circumstances indicate, in combination with opium or other remedies. If we desire it to enter the circulation, or to act quickly, at a distance from the stomach, on some internal part, the form of solution or powder should be employed. As a styptic for the rectum, uterus, vagina, or urethra, the aqueous solution, used as an injection, will generally prove most serviceable. For local skin diseases, requiring an astringent, Tannic Acid may be advantageously used, either as a lotion, or in the form of ointment. As, however, the application is really effective, it will be well to attend, at the same time, to any requirements that the general system may demand. Reduced to a very fine powder, I have found that Tannic Acid may be inhaled into the lungs and air-tubes. It has produced no irritation or cough, when tolerably well managed. I have not had much experience of it in this form; but I believe that a cautious trial might be made of it in cases of disease of the lungs and air-tubes, in which the local application of a non-irritant styptic is indicated.

The dose of pure Tannic acid must vary according to the circumstances under which it is employed. For urgent disease, such as hæmorrhage from the stomach, bowels, or lungs, five to ten grains should be used every few hours. For chronic fluxes, wherever situated, two or three grains, given twice a day, will generally suffice. When the general improvement of the health is simply desiderated, one or two grains, two or three times daily, are enough, but the remedy should be long continued. For children afflicted with rickets, half a grain to one grain answers well, given night and morning.

Tannic Acid is contra-indicated in hæmorrhages and fluxes, wherever situated, which are only the relieving of an obstructed circulation, or of inflammatory or congestive action. It is, under such circumstances, calculated to do mischief. In obstinate constipation of the bowels, when circumstances render a lax state necessary, Tannic Acid is contra-indicated in large doses, as a general rule. Irritability of stomach and gastritis are liable to be aggravated by Tannic Acid.

Several preparations of Tannic Acid have been carefully prepared, at my suggestion, by Mr. Morson, the eminent pharmaceutist, of Southampton-row. These preparations are the tannates of quinine, cinchonine, alumina, bismuth, and lead. They are all coloured, possess more or less the styptic taste of Tannic Acid, and are inodorous. I have not yet had time to make sufficient trial of them, so as to be enabled to report at present upon their virtues. I shall now only hazard an opinion that they, as well as Tannic Acid itself, will be found, upon full trial, to possess very considerable power, and to form valuable acquisitions to the resources of the physician, wherewith he may render himself more formidable to disease, and still more serviceable to the sick.

Park Street, Grosvenor Square, December 1849.

ILLUSTRATIONS OF DISEASES OF THE NERVOUS SYSTEM.

By WILLIAM H. MADDEN, M.D., Physician to the Torbay Infirmary and Dispensary, etc.

No. I. Ramollissement of Grey Matter of the Medulla Spinalis.

Case. Mr. P., æt. 63, came under my care in August 1838. He was a merchant, and had been constantly engaged in extensive speculations: a man of acute intelligence, resolute will, and excitable passions. He was rather above the average height, and strongly built; and had always been of active habits, both of mind and body. About five years before I first saw him, after dining with some hard drinkers, and fully participating in the depth of their potations, he was attacked with burning pain on the instep of the left foot, which nearly disabled him from walking, but was unaccompanied by any external appearance of inflammation. This feeling continued for some time, and gradually terminated in diminished sensibility of that foot and leg, up to about the middle of the calf. Shortly afterwards, the right foot and leg became similarly affected; and this state continued persistent during the remainder of his life. He always complained of heat in the parts, and stated that, in walking, he felt as if he were treading upon heaps of warm bran.

About a twelvemonth after the above-mentioned occurrences, Mr. P. first perceived that he passed an inordinate quantity of urine; and, at the same time, he was greatly tormented with thirst. He applied for advice, and was informed that he laboured under diabetes. He accordingly submitted to very rigorous discipline, one material item of which was an almost total abstinence from fluids. His urine, carefully examined by several chemists, was found to contain no sugar. Having persevered in this line of treatment for two years without any benefit, he adopted, on the recommendation of Dr. Prout, an entirely different course, living again in the way to which he had been formerly accustomed, *i. e.*, rather generously. Under this system, his general health greatly improved, and the supposed diabetic symptoms gradually wore away.

During the severe frost of January 1838, Mr. P. stood, on one occasion, for some hours on the ice; and, on his return home, found that both his great toes were frost-bitten. The ulcers resulting from this accident healed but very slowly; and for seven weeks he was confined entirely to his bed. I should mention that, for many years, he had been troubled with varicose veins in the legs. Shortly after leaving his bed, Mr. P. drove, on a very cold day, to Roslin, a distance of about six miles from his residence, and sat for some time with the left side of his face to an open window. During this ride, he felt an unusual degree of stiffness of that side of the face; and, when he arrived at his friend's house, found that he was unable to hold anything in his left hand. This did not arise from loss of muscular power, but from the greatly diminished sensibility of the cutaneous textures, which, he now perceived, had extended over the whole of that side of the body, but was most complete in the hand and fingers. There was no distortion of any portion of the face. In this state he continued, notwithstanding the most active

treatment by bleeding, both local and general, blistering of the head and spine, and severe purgation, until about the 11th or 12th of August, when he suddenly perceived a dimness in the vision of both eyes. On the 15th, the sight of the right eye was entirely lost for some hours, but returned again. On the 16th, I saw him, with my friend Dr. J. Renton, and found him in the following state: General health apparently very good. Not the slightest distortion of any features. All ordinary motions performed perfectly, but much feeling of stiffness, and as of a weight in the hands, especially the left. Great, but not total, loss of common sensation, over the whole of the left side of the body. The muscular sense was entire. The eyes presented nothing remarkable, the pupils contracting readily and freely. He could see distant objects more clearly than near ones; and the indistinctness of vision varied much at different times. Taste and smell were perfect. He had no headache, and but little occasional giddiness. He complained much of pain in the back, when driving over rough roads. Cutaneous transpiration was entirely suspended. The appetite was good; the tongue clean; and the bowels regular, and answering easily to medicine. Pulse from 70 to 80, of good strength. A seton was inserted in the neck; the diet was carefully regulated, and means were adopted to improve the state of the capillary cutaneous circulation, which was very feeble. We also made a few (about six) trials with galvanism; but our patient would not persevere in the use of this agent. When first employed, it excited no sensation at all; but subsequently its influence was felt, each time more distinctly.

September 26th. Mr. P. was not so well. He complained much of pain in the left hand and arm, with general uneasiness. Pulse 100, and full. His face wore a contracted and unhealthy aspect He had so strong a prejudice against bleeding, from the effects of former treatment, that all that could be done was to prescribe a purgative and low diet. These means, however, gave great relief, and he was much better during the next two days; though his family observed that his temper, always irritable, was now unusually so.

September 29th. He still complained much of pain, and of a feeling of distension in the left hand. Pulse 90. Tongue clean, and bowels open. During this day, he was much irritated and excited by an accident which happened to one of the members of the family. In the afternoon he had rigors, and was unable to walk; and, when carried to bed, could not turn himself. We were not summoned until the next morning; but his friends administered two purgative pills. During the night, he was very restless, and somewhat delirious.

September 30th. When I saw him, he was lying on his back, with his eyes closed, and brows much contracted. The right hand and arm were in incessant motion, and often carried to the head. Tongue very foul. Pulse 120, full, hard, and bounding. Head hot. Pupils somewhat dilated, but sensible to light. He was easily roused, but lay in a kind of stupor, and did not seem willing to be disturbed. He was very restless, but made no complaint of the head. He was bled largely, until an impression was made upon the pulse; a purgative was administered, to be repeated if the bowels did not act freely. An evaporating lotion was directed to be applied to the head, and warmth to the feet.

October 1*st.* He was very restless and talkative during the night. The bowels were once moved. He refused to take the second dose of medicine, and would not allow the lotion to be applied to the head. The blood drawn was strongly buffed and cupped. The pulse was softer. There was erysipelatous redness of the right thumb and arm, extending nearly to the elbow. Another purgative was ordered, and a lead lotion to the inflamed part. In the evening, the pulse had become harder, and he was again bled. The bowels had been freely opened; the stools were copious, black, and offensive. He was more quiet, and perfectly sensible, making no complaint of pain, except in the inflamed arm. *The sensibility of the feet was found to be greatly increased.*

October 2*nd.* There was no improvement. The urine and fæces were passed involuntarily. He was perfectly sensible when roused; slept much, and wandered occasionally. There was no intolerance of light. The face was frequently flushed, and the temperature of the head exalted; but at times there was great pallor and diminished heat. He died during the night.

Sectio cadaveris, forty-two hours after death. There was little, if any, appearance of decomposition. The scalp and cranium were very thick. The dura mater was somewhat thicker than usual, and more adherent to the subjacent parts. There was a considerable sub-arachnoid effusion; also much bony deposit in the arteries of the brain, which also contained a good deal of air. The base of the brain was extremely vascular, especially about the optic commissure and the locus perforatus, where it had a uniform pink colour. Ths ventricles were much distended with fluid, a considerable quantity of which flowed also from the spinal canal. The fibres of the crura cerebri and pons were unusually distinct. The medulla oblongata presented the same appearance: it was hard, and apparently shrunk in size. The floor of the third ventricle was very soft and pulpy. Both corpora striata were softer than natural, but unaltered in colour. The membranes of the spinal cord were unusually vascular. The cord itself, in the cervical and upper dorsal regions, was of a natural consistence externally; but the centre was almost reduced to a state of fluidity, presenting the appearance of thick cream. This was most particularly remarkable at the part where the cervical plexus comes off. Below, it was harder; but we did not examine the lumbar region.

Remarks. This case possesses many instructive features, and especially illustrates, in a very marked way, the difficulties which, in the present state of our knowledge, beset a consistent interpretation of the phenomena of Diseases of the Nervous System. It appears pretty evident from the history, the course of the symptoms, and the lesion found after death, that the spinal cord was, from the first, the organ at fault. The marks of intra-cranial disease, with the exception of the softening of the floor of the third ventricle, and perhaps the partial ramollissement of the corpora striata, were, in all probability, of quite recent origin, being merely the evidence of the last fatal inflammatory attack. The persistent burning pain in the instep would seem to have been the first indication of central mischief. It was clearly not dependent upon any mere local affection; for, independently of the absence of

all proof of such by any external signs, the fact that this pain terminated in numbness of the whole foot and a considerable part of the leg, and was followed by a similar condition of the other extremity, is quite conclusive. The cause of both must have been identical, and should be sought for in some pathological condition of that organ, from which all the affected parts received their nervous supply. The exact nature of that condition it is, of course, impossible to affirm; but seeing that the exciting cause appears to have been the undue stimulus of excessive drinking, we may not unreasonably conjecture that it was of an inflammatory character. But that it was not of any great extent appears also evident, from the long period during which the paralytic symptoms remained stationary. They did not increase in severity, nor were any other portions of the body invaded; but, on the other hand, they did not in the smallest degree diminish; consequently their cause, whatever that might be, remained still in operation. And here we meet with another proof that that cause was central, in the sudden and alarming increase of anæsthesia, produced by the exposure to severe cold, which constituted the next great step in the development of the nervous symptoms; for these, it will be observed, did not constitute a new set of phenomena, but were merely an extension and exaltation of those which had previously existed. The progress of the case henceforward was not very different from what might have been predicated, on the supposition that the medulla spinalis was organically affected; and dissection showed that such had been the case.

But, having arrived at this point, we meet here with much more formidable difficulties. The only pathological change at all sufficient to account for the symptoms observed during life (I mean those which preceded the fatal cerebral attack), was the ramollissement of the grey matter of the cord. How does this comport with our knowledge of the functions of that portion of the organ?

The opinion most commonly held at present by physiologists, is, that the grey matter, wherever found, is the source of power, the medullary fibres merely serving the purpose of conductors. Disease, therefore, of this part should manifest itself either in perversion or in destruction of power. In the case before us, it was the latter; and, so far, all appears plain enough. But, though sensation was almost annihilated, the power of motion remained but little impaired; and herein lies our chief difficulty. That which would account for the loss of sensation, should also, if the generally received hypothesis be correct, have involved the loss of motion. But this was not observed. Nor are the obscurities involving this subject at all diminished by references to other recorded cases. Dr. Abercrombie quotes from Ollivier an interesting case, in which a similar pathological condition existed, but with symptoms very different. "The affection began with numbness of the forefinger of the left hand, which gradually extended over the hand and arm. After some time, the other hand and arm became affected in the same manner; and, after a year, the lower extremities. All the limbs then became paralytic, *but without loss of feeling*.[1] The legs were bent upon the thighs, and the thighs upon the abdomen, and

[1] There is here some little obscurity in the report. Did the *numbness*, spoken of above, disappear, as the other symptoms were developed?

the arms rigidly flexed across the thorax, with the points of the fingers pressed against the palms of the hands. If attempts were made to move the limbs from these positions, they were thrown into spasmodic contractions with much pain. The patient died in this state at the end of eight years from the commencement of the disease. Along nearly the whole length of the cord, there was a central cavity full of a soft grey mucus. It was considered as arising from ramollissement of the grey central matter of the cord. The parietes of the cavity were formed by the white matter in a healthy state."[1]

It is not easy to reconcile these discrepancies, nor indeed to account satisfactorily for the phenomena of Ollivier's case standing by itself; for the spasmodic contractions, into which the limbs were thrown, when attempts were made to straighten them, were evidence that motor power was not annihilated, though volition could not call it into action. And the disorganization was too complete to allow us to fall back upon the supposition, that there was a state of continued irritation in the nervous centre, producing the permanent contraction when at rest, and the spasms under fresh excitement. For a less extent of disease, this might be a correct explanation; but it will not apply to such a degree of structural mischief, as is involved in the conversion of the interior of the cord into a canal filled with grey mucus.

But leaving this case, and turning our attention again to that one which is the more immediate object before us, let us inquire if it be possible to offer any explanation of its symptoms and morbid appearances, which shall preserve intact the foregoing hypothesis, "that the *vesicular* is the truly dynamic nervous matter, the source of all nervous power."[2] Todd and Bowman, in their very admirable work on Physiological Anatomy, from which the above statement is quoted, contend that the *posterior* horns of the grey matter of the cord, "as being the part in which the sensitive roots are implanted, participate largely in the mechanism of sensation; and that, by their union with the brain, they become, *pro tanto*, a part of the centre of sensation, so long as that union is unimpaired."[3] The impulse of volition, again, exerted primarily in the grey matter of the brain, acts through the fibres of the anterior pyramids (which they regard as merely commissural) on the *anterior* horns of the grey matter of the cord, which in its turn stimulates the motor roots of the implanted nerves, and produces muscular contractions. Now, if it could be shown that, in the particular example we are discussing, the posterior cornua of the grey matter were most diseased, and had become, as a consequence, most profoundly degenerated, their analogues in front still retaining somewhat of more healthy structure, we should be able to reconcile the difficulties of the case at once. This it is not possible to do; for the examination was not by any means sufficiently minute; and, therefore, any explanation thus founded can merely rank as a supposition. This is but an unsatisfactory position; but it is the best, so far as I can see, which can be assumed.

On one occasion, during the last fatal attack, it was noticed that the sensibility of the feet was greatly increased. Did this depend upon the cerebral excitement? or might not the quickened circulation in which

[1] On Diseases of the Brain, etc. Third edition, p. 349.
[2] Todd and Bowman. Physiological Anatomy, vol. i, p. 322. [3] Ibid. p. 331.

the cord, in common with other organs, must have shared, have stimulated, for a time, its half-destroyed energies?

It is greatly to be regretted, that no direct experiments were made to ascertain the condition of the excito-motor functions. If the action of the sphincter ani be reflex, as Dr. Marshall Hall supposes, then in the perfect manner in which its office was performed, until within the last few days of life, we have one proof that they were entire. But if Todd and Bowman be correct in their opinion, that its active contractions are mainly excited by voluntary influence, then, of course, its healthy condition will merely serve as an additional illustration of what was manifested in the muscles of the limbs and trunk, viz., that the stimulus of volition remained in great measure operative. And, probably, the circumstances under which it failed eventually, may be regarded as some evidence in favour of the last-mentioned view; for it was when the brain itself was diseased, and when the power of volition generally failed, the patient having become unable even to turn himself in bed, that the urine and fæces were passed involuntarily.

There is one other point of interest in the case, to which I would refer in conclusion, and that rather in the way of question than of affirmation. May not the spurious diabetes, with which my patient was afflicted about a twelvemonth after the commencement of his illness, have been caused by the pathological condition of the spinal cord? We have abundant evidence of the influence of the nervous system over the secreting organs, especially the kidneys; witness the large discharges of limpid urine, which so commonly accompany the hysterical seizure. And this instance is one very much to the purpose; for though it is probable, that, in many cases, the urinary apparatus is stimulated from direct sympathy with the primarily affected uterine nerves; yet in others, and more especially when the flow succeeds instead of preceding the attack, it appears rather the indirect result of irritation propagated to the spinal cord, and thence reflected on the kidneys. And if this be the case, it is not difficult to understand how another, and more permanent, state of excitement in the cord should originate and keep up an undue action of these secreting organs. I do not know what was the state of the skin, as regards its transpiration, at that time; but when Mr. P. was under my care, the perfect absence of all perspiration was most marked. This has often been observed in cases of paralysis; and that it depends upon the same cause as that which produces the paralysis itself, is proved by the fact that, in some cases, "while perspiration is abundant on all other parts of the body, there is no perceptible moisture on those which are paralysed."[1] In this, therefore, we have the converse phenomenon to the first; at least, if the hypothesis indicated above be founded in truth.

About the same time that Mr. P. was under my care, I attended a case which, at the commencement, presented the ordinary symptoms of continued fever. On the eighth day, the patient, a young man, became suddenly comatose; and, at the same time, *a most copious and universal sweat* broke out. His fæces and urine were passed involuntarily, *the latter in inordinate quantity.* On the night of the eleventh day, he

[1] Library of Medicine, vol. ii, p. 275.

suddenly recovered his consciousness, and was able to speak, though very imperfectly; but the other symptoms remained unabated. He gradually sank, and died on the morning of the thirteenth day; the extraordinary secretion of sweat and urine continuing to the last. There was no dissection. Here, again, the symptoms of disturbance in the nervous centres, and the abnormal excitement of the secreting organs, were coincident.

Torquay, November 27, 1849.

CASE OF IDIOPATHIC TETANUS SUCCESSFULLY TREATED.

By THOMAS BEVILL PEACOCK, M.D., Assistant Physician to St. Thomas's Hospital.

Though cases of Idiopathic Tetanus, and those in which the symptoms supervene gradually, are usually more tractable than the traumatic and acute forms; yet, as the disease is, under all circumstances, so frequently fatal in its result, it is conceived that the following may be worthy the notice of the profession.

Case. Samuel Sessions, a labourer, residing at East Acton, forty-eight years of age, was admitted into the Royal Free Hospital, on the 2nd of November, 1847. He stated, at the time of his admission, that he had taken cold on the 17th of October, while working in a potatoe field and perspiring, and shortly after felt some stiffness, and difficulty of moving the left leg; this was followed by similar stiffness of the right leg, and cramp in the back; and subsequently the neck and muscles of the jaws became affected. On the 21st, he was scarcely able to open his mouth; and when he succeeded in separating his jaws, they suddenly snapped to, and bit his tongue. Since this time, he had been quite incapable of taking any solid food. Soon after the locked-jaw came on, he began to suffer occasionally from severe spasms, more especially when he made any exertion, as in the effort of getting out of bed. In these attacks the body was drawn back, the legs extended, and the stomach became hard and painful. He had several paroxysms of this description during the last week; and the day before his admission, he had one more severe than any of the former attacks. He stated, that though formerly of intemperate habits, he had latterly lived regularly, and had been but poorly off for some time.

When seen on the 3rd of November, he expressed a wish to be got out of bed; but, immediately on placing his foot to the floor, he was seized with one of the severe paroxysms. His body became arched backwards, his limbs were rigidly extended, the abdomen was excessively tense, and the muscles of the jaws contracted, and he cried out from the severity of the pain in the epigastrium and back; the pulse also became very hard and rapid. When the attack subsided, the pulse became feeble and less frequent, the face was pale, and there did not appear to be any tenderness of the spine; the jaw could with difficulty be opened to a small extent, and the tongue was found dry and furred; the bowels were confined, and had been so from the com-

mencement of his illness. He was directed to take a purgative draught immediately, and afterwards to have two grains of calomel and one of opium three times daily, and to be cupped to 8 oz. in the course of the spine; to have port wine and beef-tea at intervals.

November 4. The medicines prescribed have been given to him, and he has been cupped, and has passed a better night, having slept at intervals. The bowels have been freely acted upon; the pulse is 76 and feeble, the skin cool; the mouth admits of being somewhat more opened, and he can protrude the tongue better,—it is less furred; the body is drawn somewhat back, and the abdomen is excessively tense; he complains of the severe pain which he experiences at intervals in the pit of the stomach. The pain, he says, is increased on pressure. He has not had any of the more severe paroxysms during the night. He was directed to continue to take the calomel and opium with the wine and beef-tea; and, if the spasms should return, to inhale ether.

He had a severe spasmodic attack on the evening of the 4th, and the ether was therefore administered. He inhaled it for three or four minutes, and then became insensible, and the spasms relaxed, but recurred almost immediately after he recovered his consciousness. The inhalation was then repeated; and, this time, it was followed by more decided and permanent relaxation of the cramps and relief from pain. At 12 o'clock at night, however, the state of rigidity had returned, and the cramps were becoming severe; the ether was therefore again inhaled; and though there was entire relaxation after this for a short time, in about twenty minutes he had a more severe spasmodic attack than any which he had previously had since his admission. It was evident, that the ether did not exercise any permanently favourable influence; and he was therefore placed in a blanket wrung out of hot water, and this again was wrapped in two or three other dry blankets; he remained so "packed" from 10 P.M. on the 5th, to 6 A.M. on the 6th.

November 6. To-day there is an evident amendment in his symptoms. He states that he has passed a comfortable night, and has slept at intervals. The permanent contraction still continues, so that his body is arched backwards and the abdomen is tense; but he has been entirely free from the severe spasms, and has less pain in the epigastrium. He can open the mouth a little more, and is able to protrude the tongue better. The pulse is 100 and quiet; the tongue slightly furred. He perspired profusely, but felt quite warm and easy during the night, and says, that the bath has afforded him great relief. The gums are affected by the calomel. The bowels have been freely acted upon, and he makes water freely. He has taken his wine and beef-tea well.

To repeat the calomel and opium pills to-night, and afterwards omit them. To take half-an-ounce of port wine, and one drachm of the compound tincture of bark, every hour, and to have a turpentine enema at night, and use the blanket bath, should the paroxysms recur.

November 8. On the evening of the 6th, he had a severe attack of spasms, and was immediately put in the hot and damp blanket, and packed as before. The paroxysm soon gave way, and he has had no attack since; but, at his own wish, he was wrapped in the blankets again last night. His body is now much less drawn backwards, the abdomen is less

tense, and he can open the mouth and protrude the tongue without much difficulty. The pulse is 92 and quiet; the skin cool and moist; the bowels were three times relieved after the enema, and twice yesterday.

To take the wine and bark every two hours, and use the blanket if necessary.

November 12. He has had no return of the severe spasms, and the permanent cramp of the muscles of the back and abdomen has nearly subsided. He has still some stiffness of the muscles of the jaws and neck, and the face has not altogether lost its rigid appearance; the eyebrows and forehead being still corrugated and contracted. He can now lie in any position; the pulse is of good volume, and quiet; the tongue is clean, and the bowels act naturally. Since the 10th he has taken the bark and wine only every four hours, but, at his own request, he has had the blanket bath for a short time each evening; and, whenever he feels the spasms, he immediately applies for it.

November 16. He is now gaining strength, and for the last few days has been able to take some solid food. The spasms have not altogether left the muscles of the face and neck, but all remains of the cramp of the abdominal and spinal muscles have entirely disappeared. The blanket bath has been occasionally used. From this time he did not again have recourse to it; and he was discharged, cured, on the 24th.

Remarks. In reference to this case, I have few comments to offer. The features which the disease presented, are sufficiently characteristic of Tetanus; and the course of treatment pursued requires little explanation. Few practitioners will probably be now found to contest the conclusion of Mr. Curling, that Tetanus is a functional affection, and not necessarily connected with inflammation of any portion of the nervous system. Yet there can be little doubt, that the disease is occasionally dependent on, or connected with, excited action of the spinal cord or its membranes; and this would appear to be especially the case when it arises after exposure to cold, etc. Taking this view of the pathology of the disease, I thought it well to commence the treatment of the case with mild antiphlogistic measures; a small quantity of blood was abstracted, by cupping, from the neighbourhood of the spine; the bowels were relieved by aperients, and calomel and opium were prescribed; and, though the febrile symptoms were at no time very marked, this treatment was obviously productive of benefit. The spasms, however, continued to recur; and, on the third day after his admission, he was directed to inhale ether. This was repeated several times; but, though in each instance temporary relaxation ensued, no permanent relief was obtained, and the spasms became more frequent and severe. On the evening of the fourth day, the packing in the hot and moist blanket was therefore had recourse to; and the beneficial effect of this application was attested, not only by the obvious relief which followed its first employment, but by the anxiety of the patient to recur to its use, whenever there was the slightest return of spasm, and to continue it till every symptom of the disease had subsided. Throughout the course of the attack, the patient's strength was supported by the free exhibition of animal food in a liquid form, with stimulants and tonics.

It is very generally admitted, that in Tetanus, few remedies afford greater relief than the warm bath; but, as ordinarily employed, its use can be continued for only a short time, and the frequent changes which it necessitates, are often injurious to the patient, by exciting the spasms or increasing their severity. To these objections the blanket-bath is not exposed. If the wet blanket be not too much wrung out, and the water be very hot, and if the patient be well packed in dry blankets externally, the heat and moisture may be long retained, and he may lie for many hours undisturbed, and during this time, food, stimulants, and other remedies may be administered. The packing may also be made the means of administering anodynes through the medium of the skin.

During the period of nearly four years that I was connected with the Royal Free Hospital, I had under my care another case of Idiopathic Tetanus, which occurred in a man, forty-seven years of age, a labourer, who had taken cold while working in the fields. The attack was more acute and severe than that which I have just detailed: he was admitted on the third day of the disease, and died on the sixth. The treatment pursued consisted in the exhibition of antimony, calomel, and opium, with the warm bath. His death was probably accelerated by an attempt to introduce a tube down the œsophagus, for the purpose of administering food. While resident in the Royal Infirmary of Edinburgh, I also witnessed a case of Idiopathic Tetanus, which proved fatal. I mention these cases, as Mr. Curling has stated that Idiopathic Tetanus is, in this climate, rarely a fatal disease. On the contrary, however, it will be seen, that of the three cases which have fallen under my personal observation, one only has terminated favourably.

20, Finsbury Circus, December 1849.

FATAL CASE OF GASTRO-INTESTINAL HÆMORRHAGE FROM CARDIAC DISEASE, WHILST UNDER THE INFLUENCE OF MERCURY.

By W. WHITE COOPER, Esq., F.R.C.S., Senior Surgeon to the North London Infirmary for Diseases of the Eye.

Mr. V. S., a merchant from Havannah, consulted me on the 31st October 1848. His statement was, that he had suffered, on several occasions, from severe febrile and liver attacks; and that, for some time previously, he had been annoyed with fits of vomiting of bile, pain in the right shoulder and side, etc. Whilst travelling on the continent, about two months before I saw him, he remarked that the flames of candles, when viewed with the left eye, appeared as blue as a Bengal light; he was teased with frequent muscæ and scintillations, pain over the brow, and headache; and objects appeared indistinct, as if seen through a film or mist.

On examination of the eye, the pupil was found to be contracted and nearly motionless, and the sclerotic had an unhealthy murky aspect; the largest type was discerned with great difficulty, and he could merely

see the outline of my features His complexion was of a muddy yellow, tongue exceedingly loaded with thick yellow fur, and his breath horribly offensive. The abdomen was tense, and there was considerable tenderness and some fulness in the hepatic region; pulse 84, and irritable, and bowels confined. It was evident that there was active congestion, and probably chronic inflammation of the choroid and retina, and that the liver was also much congested: the first indication clearly was, to unload that viscus and empty the alimentary canal. Considering that, as he had lived in the tropics, he would require a tolerably active dose, I prescribed six grains of the chloride of mercury, to be followed, after the lapse of four hours, by a brisk aperient draught, and broth diet. A blister to be applied to the left temple. On the 2nd November, I saw my patient again, and finding that the bowels had not been acted on, I directed a draught of infusion of senna, with tincture of jalap and sulphate of magnesia, to be taken immediately, and repeated at the expiration of four hours, unless the bowels had been thoroughly unloaded. This second dose brought away a panful of foul offensive matter, and afforded much relief. On the 3rd inst. he was decidedly better; the tension of the abdomen had diminished considerably, and there was less tenderness in the right side and epigastrium. The gums, however, showed evidence of mercurial action, and there was some salivation. The usual washes of alum, etc., were prescribed, and a mild aperient mixture also, in order that an action on the bowels should be kept up.

November 4th. The general symptoms are greatly improved, and the indistinctness of vision diminished, he being able to discern letters more distinctly. The salivation, however, is profuse, and face much swelled. To wash the mouth frequently with weak brandy and water, to omit the aperient, which is no longer required, and to take a mixture of infusion of cascarilla and orange peel, with dilute mineral acid, every six hours. Diet, strong beef tea, isinglass jelly, etc.

November 5th. With the exception of the salivation, the improvement still continues. There is much swelling of the gums; and an ulcer, about the size of a split pea, has formed on the inside of the gum, on each side, corresponding to the last upper molar teeth, and from one of these ulcers there has been a trifling oozing of blood. I swept the gums with a solution of nitrate of silver. The medicine to be continued.

November 6th. The salivation less, but in the night there had been some bleeding from the mouth. Supposing it to have come from the ulcers, I again touched them with caustic, and desired that the mouth should be frequently rinsed with a gargle, containing tinct. matico, ʒiii; acidi gallici, ϑj; aluminis, ϑiss; tinct. catechu, ʒiij; aq. rosarum, ʒviij. The patient was, in all other respects, decidedly better. There was no longer tenderness on pressure on the right side, the sight was improving, and he was cheerful. To take two grains of disulphate of quinine, with five drops of dilute sulphuric acid, every six hours, and to continue a bland nutritious diet.

November 7th. The salivation was nearly gone, and the patient felt so much better, that he went out for a drive for an hour. When I saw him in the evening, he said that he had spat a little blood; but I could not detect any bleeding spot, nor did it recur during an hour that I

remained with him. He was desired to use the gargle frequently, and to continue the quinine.

November 8th. The sight steadily improves, and the patient considers himself convalescent. He has been out for another drive, and is making preparations for his departure for Cuba. At my evening visit, there had been no return of the bleeding; and I believed that it was at an end, little anticipating the catastrophe which was so shortly to follow.

November 9th. On my arrival at 11 A.M., I was grieved at finding a great change for the worse. Mr. V. S. had retired to bed on the previous evening in good spirits, and feeling very comfortable. About 11 P.M. he awoke with a sensation of suffocation; and, partly by coughing and partly by vomiting, relieved himself of a quantity of blood. He did not summon assistance; but continued at intervals, during the night, to *hawk* up blood mixed with viscid saliva, and was greatly tormented with coagula in his throat, which he had difficulty in removing. I found him reclining on a sofa, pale, and still expectorating blood. This did not flow in gushes, nor pure, but was hawked up in the form of coagula, mixed with much viscid saliva. His pulse was rapid and feeble, and he was greatly depressed in spirits. I at once administered some hot brandy and water; and, when he had rallied a little, washed out the mouth with a sponge, and sought for the source of the hæmorrhage. With my fingers, I pulled out coagula from the fauces, but could not discover whence the blood came. Under these circumstances, and not desiring to take on myself the whole responsibility of the case, I sent for Mr. Fergusson, requesting him to bring instruments, in case it should be necessary to perform an operation. During the interval, I caused the patient to hold ice in his mouth, to gargle his throat with a strong styptic solution, and administered a dose of gallic acid. On Mr. Fergusson's arrival, he made a most careful examination, but with no better success than myself. In this state of absolute doubt as to the seat of the hæmorrhage, it was decided to give two grains of diacetate of lead, with half a grain of opium, every two hours; to support the strength by brandy in jelly; to cause the patient to swallow iced water frequently; and to carefully watch the symptoms. I remained with him several hours; and, at 11 P.M., had the satisfaction of finding that he had ceased to expectorate blood, and had fallen into a tranquil sleep at 9 P.M., having taken three of the pills. His bowels had been acted on thrice, and he had passed a considerable quantity of black grumous blood. Pulse 100, of very fair strength, and extremities warm. He was lying on a sofa on his right side; and, although he was still dressed, I did not think it prudent to disturb him by removal to bed. I sat up with him during the night, occasionally feeling his pulse and extremities. The former continued good, and the latter retained their heat. He continued to sleep in the same attitude until a little before 6 A.M., when, whilst I was standing watching him, he raised himself up, turned round, and laid down on his left side, with his head resting on his arm. Thinking that he was waking, I went up, and, placing my hand on his shoulder, inquired how he felt? Receiving no answer, I looked closely at his face, and saw at once that he was dead! Nevertheless, I tried all the means in my power to restore animation, but they were of no avail. He had fainted, and the heart had ceased to pulsate.

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A violent chill, from exposure to cold during my attendance on this case, confined me to bed for the two following days, and prevented my being present at the post-mortem examination, greatly to my disappointment. It was, however, conducted in the most careful manner, twenty-six hours after death, by Mr. Fergusson, to whom I am indebted for the following particulars:

"On inspecting the body of the late Mr. V. S. this morning, I concluded that the cause of death was bleeding from the bowels, complicated with disease of the heart. The intestines generally were filled with clotted blood, which had accumulated for many hours previous to death. The stomach contained the same; and the appearance of the mucous membrane of the canal indicated that it had been the seat of the hæmorrhage. The heart was at least one-third larger than natural, and its left ventricle was remarkably thickened. The liver was larger than natural. One kidney was somewhat diseased, but all the other viscera seemed tolerably healthy.

"There was no ulcer nor abrasion on the throat, fauces, or tongue; and the bleeding from the mouth must have resulted from some peculiarity which had caused the escape of blood from the lining membrane of the stomach and bowels.

"Mr. V. S. was, as you know, salivated by a very small quantity of mercury. This condition is so common, while bleeding from the mucous membranes at the same time is so rare, that I cannot suppose the one to have been the result of the other.—W. F."

Remarks. "Hæmorrhages", says Dr. Watson,[1] "from various parts of the mucous membranes, are, in truth, very common effects of cardiac disease"; and to this fact must the fatal result of the case before us be mainly ascribed. On review, it presents several points of considerable interest. Had the disease of the heart existed without mischief in the liver, or the liver been enlarged, the heart being sound, there would, in either case, have been a predisposition to intestinal hæmorrhage from the congestion caused in the abdominal vessels. The hyperæmia of the liver, in the present instance, would be a natural consequence of the cardiac disease; and thus there would result so great an obstruction in the abdominal circulation, as to gorge the vessels of the whole intestinal canal to the utmost, giving rise to hæmorrhage by exhalation from the mucous membrane. The spleen does not appear to have been enlarged to any extent, though such a condition might have been expected. Considering that the patient had been long resident in the Havannah (the climate of which is so pernicious to Europeans, that it is said that more than one-half of those who arrive there are carried off in the course of one year, principally by yellow fever), and that he had suffered from fever, it is matter of surprise there was not more extensive mischief in the liver and spleen.

The constitutional idiosyncracy, which led to the production of so powerful an effect from a single dose of calomel, could not have been foreseen, nor was the patient aware of such a peculiarity; but the mercurial action might have increased the hæmorrhagic disposition, by diminishing the cohesion of the blood, and lessening its power of coagula-

[1] Lectures on the Practice of Physic, vol. i, 248.

tion. Thus we find a series of conditions which, *separately*, might not have caused death at that time, but in combination, led to the fatal result. It is, however, clear that, with a heart so diseased, death must have taken place at no distant period.

A point which caused much embarrassment, and materially increased the obscurity of the case, was the mode in which the blood was got rid of. Instead of being vomited up, as might have been expected, considering the source whence its originated, it was *hawked* up, as if it came from some part of the fauces or throat. The swelling from the mercurial action had not entirely subsided, rendering it difficult and painful to open the mouth widely; thus it was no easy matter to obtain a view of its interior: nevertheless, although neither Mr. Fergusson nor I could detect the seat of the bleeding, we satisfied ourselves that it was not in the mouth. It had occurred to me, that it might be a case of hæmorrhage by exhalation from the gums and fauces; but having directed the patient to cleanse those parts thoroughly by washing and gargling, I swept away the remaining coagula with a sponge, and carefully watched whether any blood exuded; nothing of the sort was visible, but after the lapse of a minute, the patient began to hawk and to endeavour to clear his throat of coagula. The distress occasioned by these clots was painful to witness; a mass would be drawn out, affording momentary relief, only to be followed by the tickling and choking sensation of another mass, and so firm were these, that it was necessary to scoop them out of the fauces with the finger, or to sweep them away with a sponge. During life, the impression on the minds of Mr. Fergusson and myself was, that the blood came from the fauces or their neighbourhood; but the most careful examination after death failed to discover any ground for this opinion; on the other hand, ample evidence appeared in the stomach and intestinal canal, especially the latter, that the blood had been poured out from the mucous membrane lining those parts.

The death of this patient illustrated extremely well the effect produced on a weakened heart by the erect posture being suddenly assumed. Well aware of the danger of throwing a burthen upon such a heart, I had particularly cautioned him against sitting up. To this he had attended whilst awake; but the stiffness, produced by lying the whole night on one side, probably caused him to shift his position whilst more than half asleep; he rose up with vigour, but the heart, unable to bear the additional column of blood, stopped, and life became at once extinct. The amount of blood lost was by no means such as to lead me to anticipate death; so far as could be judged, it was between four and five pounds—certainly not more; and so little did Mr. Fergusson expect a fatal result so soon, that he had made an appointment for the morrow, confidently believing that he should find an improvement in our patient, but he, poor man, died some hours before the time named for the consultation.

Tenterden Street, December 1849.

BIBLIOGRAPHICAL RECORD.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Volume the Thirty-second. Pp. 192. London: 1849.

It has been often said, that all human institutions have their periods of greatness and decay; and it would appear that the history of the Royal Medical and Chirurgical Society of London forms no exception to this law. Here we have a sparsely-printed 8vo, of 192 pages, published as the totality of the papers of Session 1848-49, deemed worthy of appearing in the Transactions.

So startling a fact calls for investigation; and, as an important step in the inquiry, we have, with the assistance of the copious reports of the Proceedings which appeared in our volume for 1849, constructed the following tabular history of the session:—

I. REJECTED PAPERS. SESSION 1848-9.

Subjects.	Author.	F. or Not F.	When read.	Lond. Jour. of Med. Vol. I.
1. Protection from Contagion of Animal Poisons	William Acton, Esq.	F.	Nov. 14, 1848	p. 108
2. Creeping Bubo	Sam. Solly, Esq. F.R.S.	F.	Dec. 12 —	111 & 437
3. Keloides	Erasmus Wilson, Esq.	F.	Jan. 9, 1849	211
4. Case of Cheloidea	W. O. Chalk, Esq.	F.	— —	*ib.*
5. Aneurism of Axillary Artery	Henry Hancock, Esq.	F.	— 23, —	296
6. Scarlatinal Albuminuria (embracing 219 cases)	James Miller, M.D.	F.	— —	297
7. Cholera Statistics	J. S. Streeter, Esq.	F.	Feb. 27, —	397
8. Cervical Paraplegia in an infant	Henry Davies, M.D.	F.	Mar. 27, —	500
9. Diabetes	Wm. Macintyre, M.D.	F.	— —	501
10. Paracentesis Thoracis in Pneumo-thorax	Hamilton Roe, M.D.	F.	April 10, —	678
11. Foreign Body in Bronchi	Sam. Solly, Esq. F.R.S.	F.	— 24, —	680
12. Secondary Syphilis	Henry Lee, Esq.	Not F.	May 22, —	688 & 797
13. Tumours of Mammary Gland	J. Birkett, Esq.	Not F.	June 12, —	688
14. Variety of Closed Pupil	P. C. Delagarde, Esq.	Not F.	— —	689
15. Wound of Radial Artery	H. B. Norman, Esq.	F.	— 26, —	777
16. Case of Diseased Larynx	E. Humby, Esq.	F.	— —	*ib.*
17. Anatomy of Sudoriferous Organs	G. Rainey, Esq.	Not F.	— —	778
18. Treatment of Pericarditis	John Taylor, M.D.	F.	— —	779
19. Calculi of Pancreas	Oscar Clayton, Esq.	F.	— —	781

II. PAPERS PUBLISHED IN TRANSACTIONS. SESSION 1848-9.

Subjects.	Author.	F. or Not F.	When read.	Lond. Jour. of Med. Vol. I.
1. Nitrate of Potash in Rheumatism	W. R. Basham, M.D.	F.	Nov. 14, 1848	p. 106
2. Puerperal Fever of Vienna	C. H. F. Routh, M.D.	Not F.	— 28, —	108
3. Case of Cysticercus Cellulosæ in Anterior chamber of Human Eye	Wm. Mackenzie, M.D.	F.	— —	111
4. Minute Anatomy of the Lung of a Bird	G. Rainey, Esq.	Not F.	— —	110
5. Case of Lesion and Reparation before Birth	John D. Jones, Esq.	Not F.	Dec. 12, —	112

II. PAPERS PUBLISHED IN TRANSACTIONS (CONTINUED).

Subject.	Author.	F. or Not F.	When read.	Lond Jour. of Med. Vol. I.
6. Appendix to a Case of Successful Removal of an Ovarian Tumour. .	H. E. Burd, Esq.	Not F.	Jan. 9, 1849	p. 213
7. Exfoliation of Anterior Arch of Atlas	Robt. Wade, Esq.	F.	Feb. 13, —	395
8. Pathological Researches into Diseases of the Ear	J. Toynbee, Esq. F.R.S.	F.	— —	395
9. Case of Apoplexy of Cerebellum	Robert Dunn, Esq.	F.	Mar. 13, —	498
10. Mental Diseases	J. Webster, M.D. F.R.S	F.	May 8, —	686
11. Case of Dissecting Aneurism.	J. Risdon Bennett, M.D.	Not F.	June 26, —	781
12. Case of Popliteal Aneurism, in which Femoral Artery wasted. . .	J. D. Wright, Esq.	Not F.	— 12, —	689
13. Case of Chronic Hiccup and Vomiting: oxalic acid found in Blood. .	Alfred B. Garrod, M.D.	Not F.	— 26, —	690

From the above tabular analysis, it appears, in the session 1848-49, that nineteen papers were rejected, of which fifteen were by Fellows: and of the thirteen allowed to appear in the Transactions, only six were by Fellows of the Society! The six approved papers by Fellows may be thus classed:—

CASES, BY	PATHOLOGICAL AND THERAPEUTICAL INQUIRIES, BY
Dr. Mackenzie.	Dr. Basham.
Mr. R. Dunn.	Mr. Toynbee.
Mr. Wade.	Dr. Webster.

The seven approved papers, not written by Fellows, may be thus analyzed:—

CASES, BY	ANATOMICAL RESEARCHES, BY
Mr. Jones.	Mr. Rainey.
Mr. H. E. Burd.	PATHOLOGICAL AND THERAPEUTICAL RESEARCHES, BY
Mr. Wright.	Dr. Routh.
Dr. Risdon Bennett.	
Dr. Garrod.	

We might pursue our analysis of the Transactions much further; but we have said enough to show, that the Royal Medical and Chirurgical Society is in a bad state;—and this, notwithstanding the number of its Fellows, and the known talents and reputation of the majority. Among all the physicians of the noble hospitals of London, and other Fellows equally competent, one only—Dr. Basham—has exhibited an effort to benefit the neglected but all-important science of Therapeutics. This fact, we think, marks the weakness of the Society more than any other, while it points to an easy means of invigoration:—to encourage the Fellows, who have the opportunities and the talents fitted for the purpose, to make patient clinical researches into the pathology of diseases, and uses of medicines, by giving their Essays an honourable place in the Transactions. Our hospital surgeons have not contributed one line to this tiny tome. Fellows are irritated by the present regime; but we hope to see a more encouraging system introduced, and the spectacle never again exhibited of papers of intrinsic value being rejected. The whole machinery of the Society is rotten, and the institution, if not renovated and kept in repair, will, in another year, dwindle into a mere book-lending club. A select committee ought to be at once appointed, to inquire into the present condition of the Society,—not with the view of throwing discredit on individuals, but of laying open to view the principles of government, and the machinery by which the Volume of last session has been made so paltry, and why the aspect of the present campaign is so dispiriting.

Letter to the Lord Advocate of Scotland on Medical Reform. By James Syme, Esq., F.R.S.E., Professor of Clinical Surgery in the University of Edinburgh, and President of the Royal College of Surgeons of Edinburgh. Pp. 16. Edinburgh: 1849.

Mr. Syme first points out that there is no deficiency in medical instruction in Scotland, to warrant the exclusive privilege of the Apothecaries' Company in England. We think this point is not likely to be disputed; but, unfortunately, it has no practical bearing on medical legislation, which has, by almost general consent, been handed over for settlement to Corporation committees and intriguing coteries, for whom no common ground existed, but compromise—that miserable refuge of selfishness and baffled ambition.

Mr. Syme avers that he has, for two reasons, constantly predicted the failure of the various schemes of Medical Reform hitherto brought forward :—"*In the first place,* because they were all measures of detail—extremely complex, and affecting a great variety of interests, so that any of the parties concerned, wishing to impede their progress, could easily find means to do so; like the London Apothecaries, who not being able to deny the justice of equal privileges to practice being founded upon an equality of education, instead of questioning this principle, or expressing any unwillingness to consider the arrangements proposed for carrying it into effect, confided the safety of their monopoly to the tactics of delay. *Secondly,* because none of these measures were directed with a single straightforward view to general expediency and public advantage, but were all founded on the principle of give and take, or mutual concession and accommodation. Your lordship, and your lordship's predecessors, in attempting to legislate for 'Medical Reform', have said to the various colleges and corporations, '*Arrange the matter with each other, and when you agree upon the details, I will embody them in a Bill.*' It may be easily imagined what a tissue of absurd and mischievous regulations would thus be woven, through the selfish eagerness of each body to gain some advantage, blinding it to the tendency of proposals from others in the way of exchange or equivalent for what they surrendered." (pp. 7-8.) In this passage, we think, are most correctly stated the causes of the miscarriage of the Medical Bills; and in it, also, we find much cause of thankfulness that they have all proved abortive.

Mr. Syme laughs at the importance which some attach to the classification of practitioners by Act of Parliament. In truth, it is an impracticable absurdity. On this subject, we must again allow the author to speak for himself: —"Another favourite scheme of medical legislation has been the classification of practitioners into Physicians, Surgeons, and General Practitioners, in complete disregard of many obvious objections; and especially the notorious fact, that the two former classes exist only in metropolitan cities. The whole of Scotland at present contains not more than three or four physicians, practising only as such, and but one surgeon [Mr. Syme?] who devotes his attention exclusively to surgical cases. In all England there is not, so far as I know, one *pure* surgeon out of London.[1] How, then, could this arrangement have been realized, with due regard to the real position of practitioners? It is true that the Medical Bills contained processes of education, which were to confer the privilege of assuming these titles, which have hitherto been appropriated to men actually engaged in practice, immediately upon leaving the schools. This was to be accomplished by lengthening the period of study, and multiplying the examinations of candidates, so as to place the acquisition of such honours beyond the reach of any students, except those whose pecuniary resources and endurance of irksome restraint—perhaps more indicative of patience than of talent—might enable them to complete the protracted period of discipline. But is it possible to imagine anything more

[1] And very few in London. Editor.

absurd than such a system? Is it less absurd than would be the proposal of a Theological Seminary or an Inn of Court, to determine by education and examination the grade of eminence to be attained in the Church or Law? Is it to be supposed that a physician or surgeon, having no claim to his title except the possession of his parchment, could ever displace from public confidence the practitioner who has gradually risen, in the estimation of his professional brethren, through many long years of assiduous and successful exertion; and who, although possessing no title different from those of his neighbours, is resorted to by them in every case of difficulty? If, indeed, gentlemen who elevate themselves to this position in practice could, without any trouble to themselves, and especially without submitting to the annoyance of an examination, be assumed as associates by a College of Physicians or Surgeons, the arrangement would be no less reasonable than advantageous, both publicly and privately. But any attempt to determine the estimation in which medical men are to be held, by ushering them upon the stage of practice in different ranks, is no less impracticable than irrational." (pp. 9-10.) This is true.

We profess not to be able to follow medical reformers through all their mysterious labyrinths of "give and take", and therefore we decline giving any opinion as to the origin and history of the project of establishing in England a College of General Practitioners; but we agree with Mr. Syme in believing that, "of all the contrivances which have resulted from the principle of mutual accommodation, it is unquestionably the most pernicious, and the most discreditable to its authors." The dignity and usefulness of the medical profession cannot be maintained or augmented by vulgarizing the *many*, and exalting a capriciously selected *few* to a theoretical altitude. It is the first and most sacred duty of a Government, to elevate and improve the great body of family or general practitioners, and especially those of the humbler class, who, only by embracing all departments, are able to scrape together a subsistence in districts too poor or too thinly-peopled to support the pure physician, the pure surgeon, the pure obstetrician, and the pure pharmaceutist. The village surgeon, who "condescends to men of low estate", belongs to a class second to none in social importance; and his humanity is not of an inferior stamp because he does not degrade to the rank of a pauper those who are able and anxious to pay for his services, in such a way as they can afford. It would be well for humanity, that Mr. Syme's noble sentiments were to find a response in Parliament.

"It has hitherto been supposed", says Mr. Syme, "that the great duty of a Government or Legislature was, so far as possible, to elevate and improve the department of medical practice which ministers to the poorer classes of society. But the proposed College of General Practitioners would have sunk beyond the power of recovery, all who were unwise enough to enrol themselves under its Charter of degradation.

"So long as the village surgeon is connected with a College, to which belong the great and good names of his profession, he is cheered in the discharge of his laborious and ill-requited duties, by the light reflected from the elevated station of his more eminent brethren; and he may console himself with the reflection, that if circumstances had permitted his cultivation of a wider field, he also might have proved an Abernethy or a Cooper: but if you consign him to a fellowship of mere drudgery, without a single association of merit in teaching, writing, or hospital practice, what could be expected from him, except the feelings and conduct of a man bent upon gain as the sole object of his exertions? If the new College were ever established, its leading members could scarcely maintain a distinguished place in their profession, and would probably not stand higher than the Apothecaries." (p. 13.)

The plan of Medical Reform proposed by Mr Syme is very simple, and can therefore, unlike many other schemes which have been promulgated, be

discussed, by friends and foes, upon its real merits. We see no detail in it to object to; but, nevertheless, we pay our tribute of respect to the generous sentiments and right principles which pervade Mr. Syme's pamphlet, rather than to specific projects, which we shrink from entering upon, lest their treatment should usurp the place of scientific discussions, which are more suitable to our pages. It therefore now only remains for us to quote the programme of

Mr. Syme's Plan of Medical Reform. "This plan is founded upon the principle that an equal amount of qualification should entitle to an equal right of practice, and upon the assumption that Scotland contains efficient means of medical education. If these data be conceded, I would propose that Government should constitute a Board, which, for the sake of distinction, might be named the Medical Council, and be charged with the following duties:—

"1. To determine what amount of education and examination should be held requisite for obtaining the license of general practice.

"2. To sanction or constitute Boards for bestowing the license of general practice in London and Edinburgh, and also in Dublin, if the measure should be extended to Ireland.

"3. To publish annually a Register of Qualified Practitioners, together with the degrees, diplomas, or other honorary distinctions, which they may have acquired." (p. 15.)

Mr. Syme concludes by showing, that the honours at present conferred by Universities, and by the Royal Colleges of Physicians and Surgeons, would not be affected by this plan; but suggests, that if these honours were bestowed in compliance with rules laid down in improved Charters, (in accordance with the tone of public opinion,) "all the objects of Medical Reform being thus accomplished, and peace taking the place of angry contention, professional talent would be allowed to pursue its proper course in the promotion of Medical Science." (p. 16.)

Annual Report of the Progress of Chemistry and the Allied Sciences. By Justus Liebig and H. Kopp. Edited by A. W. Hoffman and W. Delarue. Parts I, II, III. 1847-48.

We hail the appearance of this work with much satisfaction, believing it likely to be of practical utility. Although the study of modern languages is general at the present day, yet there are many chemists who, not possessing the advantage of an acquaintance with French, German, and Italian, are precluded from the study of the numerous valuable works and scientific periodicals continually issuing from the foreign press. To them, as well as to those to whom want of time or opportunity present an equal bar, this Annual Report will be of infinite service. The eminent names of Liebig, Kopp, Hoffman, and Delarue, are a guarantee for the fidelity of the execution; and immense pains have clearly been bestowed on its compilation.

Part I treats of Molecular Actions and Atomology; and under the head of Thermology much valuable information is contained. That beautiful experiment of Faraday's is now generally known, by which he rapidly freezes mercury by a mixture of ether and condensed carbonic acid, after it had assumed the spheroidal state in a red hot platinum crucible. The mercury thus freezing in a red hot vessel, is one of the most striking phenomena we know. Moritz states that, even on glass, water may easily be obtained in the spheroidal state, when placed at the boiling temperature, upon a heated glass surface; but this is less wonderful than the former. The subject of the formation of dew has undergone a re-examination by Melloni, and the interesting results are carefully given. Melloni distinguishes three horizontal strata in the air which surrounds thick vegetation. The highest stratum is in contact with those parts of the plants, that are radiating most strongly. This air falls down, and becomes still further cooled in the middle

region, where the vegetation is thicker, and still subject to radiation: it is here that the dew point occurs. The air now falling quite down to the ground, and between the lower parts of the plants, which are entirely protected by the upper, becomes warm again, and rises, loaded with the moisture of the soil, again to commence the same route. This circulation is the special condition of the formation of dew. Hence it is intelligible, why a draught of air opposes its deposition; why, in very dry air, dew is met with only near moist ground and stagnant water; and why the higher trees, exposed as they are to air currents, and surrounded with a drier atmosphere, are so little liable to be bedewed; and, on the same principles, why dew does not occur on the little Polynesian islands, and on ships on the high seas. KINETICS (or the science of motion), ACOUSTICS, and OPTICS, complete the first part. The nature of the candle flame has been recently investigated by Volger, who states that a globular blue flammule, or flame bud, is first produced at the summit of the wick, and is surrounded by a reddish violet halo, the *veil*. The increased heat now gives rise to the actual flame, which shoots forth from the expanding bud. The interior consists of a dark gaseous cone, and is surrounded by another dark hollow cone, the *inner cap*. The *external cap* constitutes the most luminous portion of the flame, in which hydrogen is consumed, and the carbon rendered incandescent.

Part II is devoted to MAGNETISM, ELECTRICITY, and INORGANIC CHEMISTRY. The last three years have been prolific in discoveries and observations on the phenomena of Magnetism and dia-Magnetism, by Faraday, Oersted, and other indefatigable labourers, at home and abroad. This portion of the work is not less carefully done than the remainder; but the multiplicity of facts, and the terse style in which they are recorded, obliges us to refer to the work itself.

ORGANIC CHEMISTRY forms the subject of Part III, and presents some valuable observations on Fermentation and Putrefaction, by Blondeau, Schmidt, and Wagner. When speaking of Nicotine, we are informed that the pungency of snuff is partly due thereto; and, as the question is not unfrequently started, others besides snuff-takers may be glad to know that "in snuff nicotine is partly free, partly in the form of a neutral or basic salt, most probably an acetate. The ammonia therein is likewise present in form of salt, and it is to these two salts that snuff owes its pungent effect on the mucous membrane of the nose." (p. 472.)

In a Quina Bark, occurring in commerce in the same packages as *quina regia*, but resembling externally *quina Huamilies*, Winckler has observed a new organic base, which he calls *quinidine*, and which, according to his observations, is frequently present in commercial sulphate of quinine. From a large quantity of crude quinidine, Winckler separated quinine and a yellow resinous substance. The insoluble residue, when dissolved in alcohol of 80 per cent., treated with animal charcoal, and slowly evaporated, yielded coloured crystals of quinidine. These, when purified, formed large crystals, possessing the lustre of glass, and having the form of a right angular four-sided prism, either slightly truncated or pointed by one or two planes. Winckler also strongly recommends cinchonine as possessing never-failing febrifuge qualities.

The third Part not only concludes Vol. i, but contains the first sixty-four pages of Vol. ii,—a somewhat awkward arrangement, because they are almost sure to be soiled or lost, if the first volume is bound up before the second volume is completed,—leaving them as loose sheets. Alcohols, Volatile Oils, Colouring Matters, etc., form the subjects of these pages, and the mention of colouring matters reminds us of a curious fact, which we give on undoubted authority. One of the most eminent colour manufacturers, in London, was unable, although repeated attempts were made, to strike a good *scarlet*, during the whole time the cholera prevailed in the metropolis. Some atmospheric influence was at work which baffled the most carefully-conducted

experiments, and rendered the production of that brilliant colour impossible.

This work, being intended for practical men, is essentially practical; and we believe it to be well calculated to assist the working chemist, and to forward the progress of the science of Chemistry in this country and its dependencies.

Lectures on Medical Missions: delivered at the instance of the Edinburgh Medical Missionary Society. pp. 320. Edinburgh: 1849.

This is truly an important volume; and, apart from the particular object for which the lectures were delivered, they contain such an exposition of Medico-Christian Ethics as must produce a benign influence on every thoughtful and conscientious physician, by whom they are perused.

The volume contains six Lectures, and a Prefatory Essay by Dr. William P. Alison, the esteemed and able Professor of the Practice of Medicine in the University of Edinburgh.

Lecture I is Introductory; and contains a very eloquent and stirring statement by Mr. Miller (the Edinburgh Professor of Surgery), in which it is proved, both by theoretical arguments and historical details, that the most successful apostle of Christianity and civilization, is the man who combines with the piety and devotion of the Christian, that aptitude in therapeutics which is possessed by talented men, thoroughly educated in medico-chirurgery. Mr. Miller advocates "no permanent or general conjunction of Medicine and Divinity—as was attempted in the ancient period of conjunction and decline; but only that occasionally Medicine shall become the graceful handmaid of Religion, and assist in winning souls; that but a comparatively small number of devoted men shall go forth from the medical, to the missionary, field, while the main body still continue, in their peculiar vocation, to advance and elevate the healing art." (p. 33.)

The Actual Success of Medical Missions is thus set forth: "It is not the untried experiment of yesterday of which we speak. At this time, there are about forty Medical Missionaries labouring in various fields. In Syria, whence the system first sprung; scattered through all Asia; in Polynesia; in Africa; among the savage tribes of America. In God's providence, they seem to have found wide doors specially opened for their entrance. As Medical men, they have found 'access to communities and families in heathen lands, where the mere evangelist is not permitted to enter'. 'He who is a physician is pardoned for being a Christian; religious and national prejudices disappear before him; all hearts and harems are opened; and he is welcomed as if he were carrying to the dying the elixir of immortality. He, more than any one else, possesses the *mollia tempora fandi*.' In the wilds of the Assyrian mountains, Dr. Asahel Grant, 'armed with his needle for the removal of cataract, forced mountain passes' which the sword could not command; and 'amidst ferocious warriors, won his way to their homes and their hearts. On account of his professional skill, he was enabled to traverse, in safety, regions heretofore untrodden by civilized man; where inevitable death met the ordinary traveller, and in whose defiles an army would perish in attempting to effect a forcible entrance.' In Damascus, 'while all other Franks were grossly insulted and pelted with stones, Dr. Thompson was allowed to pass unmolested.' A Missionary of thirty years' standing in India, has declared, that, 'but for the attention he was at some pains to render the sick, he knew not how he could have gained the confidence and ultimately the affection of the natives'. Mr. Gerstmann, 'by the exertion of his medical skill amongst the people (at Jerusalem), was the means of bringing large numbers of the Jews to listen again to Christianity, after they had entirely withdrawn themselves, at the command of the Rabbis.' In Siam, Dr. Bradley introduced vaccination, and became something more than

the Jenner of an empire of four millions. In Ceylon, Dr. Scudder, by his wonderful healings, eclipsed the great idol Corduswammy ; and, as in Lystra of old, they sought to worship him as a god. In China, progress has been great, and promises almost unlimited increase. In 1820, Dr. Livingston established a small hospital at Macao ; in 1827, he was followed by Mr. Colledge ; and to both of these British Medical Missionaries 'the sick, the maimed, and the blind, resorted in crowds.' In 1835, Dr. Parker, from America, settled in Canton ; and to him 'patients of all ranks flocked from all quarters.' Other labourers have joined since. Now, the applicants for relief are counted by thousands ; and, true to the apostolic plan, while they are 'healed of all manner of disease,' they have also 'the Gospel preached unto them.' So bright is the prospect of success in that vast country, that we find one of the Missionaries thus expressing himself : 'I have no hesitation in stating it as my solemn conviction, that, as yet, no medium of contact, and of bringing the people under the sound of the gospel, and within the use of other means of grace, can compare with the facilities afforded by Medical Missionary operations.' Nearer home, the labours of Dr. Kalley, in Madeira, have proved so signally triumphant as to awake the fiercest rage of the adversary ; and the very expulsion of the missionary and his converts from the island, stands recorded as the measure of his faithfulness and success." (pp. 35-8.)

Lecture II—on the IMPORTANCE OF MEDICAL MISSIONS is by the REV. WILLIAM SWAN, lately missionary in Siberia.

THE HEATHEN PRIEST-DOCTORS seem to understand and practise the same tactics as our unlicensed counter-physicians, and other empirics, who, when the case becomes alarming, or the *patient's money exhausted*, retire in favour of the legitimate practitioner ! "I have known," says Mr. Swan, "repeated instances of a heathen priest and doctor sending a patient to the Christian missionary, after he found that, in his hands, the sufferer was sinking to the grave. If the missionary's treatment be successful, the priest claims the honour of the cure in virtue of some of his own medicines, which the patient was ordered secretly to take :[1] if the sufferer perish, after being prescribed for by the Christian practitioner, his death is ascribed to his want of skill, or even to his murderous intention. It is obviously necessary, that the medical missionary ought never to take under his care a patient in the last stage of disease, without very careful preparations, and a distinct prognosis to which he can in due time appeal. Another rule is—never to undertake a case while the native physician continues to tamper with it. . . . . I have spoken of rich patients. The priests have taken care to give currency to a maxim, which has a happy effect in securing the due payment of their fees. It is this—*that the medicine which is not paid for, will do the patient no good ;* and that the skill of the physician will be exerted in vain, if his services are not adequately rewarded. Perhaps the adoption of this maxim need not be objected to nearer home." (pp. 97-98.)

Lecture III contains a description, by Mr. WILLIAM BROWN, of the QUALIFICATIONS OF THE MEDICAL MISSIONARY. We regret that we can only quote one of the concluding paragraphs.

"Let me now gather together the leading thoughts that have been spread over this address, and place them before you more briefly. The Medical Missionary must know well his profession—he must have pursued steadfastly a full course of professional discipline—he must have acquired the power of distinguishing diseases, and of applying the suitable remedies—he must have skill in operating, when he has ascertained that an operation is necessary—he must exercise his profession with ardour and perseverance—he must have

[1] Patients coming to us from homœopaths have several times secretly continued to take their globules along with what we prescribed. The mixed faith of quack-fanciers is a curious psychological study. EDITOR.

a feeling heart for the sufferings of his fellow-creatures, and a conviction that he is responsible to God for the use he makes of the remedies which are placed at his disposal—he must be conciliatory and forbearing to his neighbours and associates—he must be of a peaceable and peace-making spirit—he must be a Christian ; convinced by reflection of the Divine authority of the Scriptures ; feeling personally his need of that deliverance which the Gospel reveals ; grateful to that Saviour who has procured the blessing to him ; and determined, by God's grace, to show his gratitude, by his obedience, and by the consistency of his conduct. Conscious of his own sins and shortcomings, he has no desire to boast of his merits ; and yet he thinks it no boasting to tell others, that since he became a Christian, he has been much happier than before, and that every effort he has made on the side of truth and virtue, has ever advanced his own enjoyment. Knowing that the efficiency of every remedy depends upon the blessing of God, he gladly asks, in prayer, for such a blessing; and he meekly feels that he is but an instrument, in God's hand, in all the success which attends his exertions. Being himself a Christian, he desires that others shall become Christians also. Being himself satisfied that sin is no trifle—that the displeasure of God, on account of sin, is no idle imagination, but a stern reality—that there is only one way to heaven hereafter, and one way to real, lasting happiness here, he desires that all may find that blessed path, that all may listen to the Divine Saviour when He says, 'Come unto me, all ye that labour and are heavy laden, and I will give you rest.' (Matt. ix, 28.)

"He may possess the qualifications, physical, mental, moral, which fit him for going to China, or some other far distant land. If so, he has a glorious prospect before him ; because to do good to others ought to be, in subservience to God's will, a ruling motive in life, and to do the greatest amount of good, must be the best sphere of duty. But he may lack some one of these. His physical frame may be unfitted for a tropical climate ; or his mental capacities may be unable to acquire an Oriental language, or to grapple with the subtleties of Hindoo sophistry ; or he may shrink from the supposed dangers, privations, and toils of the professedly missionary work. In such case, he cannot have the honourable place which belongs to those who press into the van of the spiritual conflict. But he is not, therefore, excluded from it altogether. He may still enjoy the blessed privilege of serving the Lord Jesus nearer home. He is not relieved from the solemn responsibility laid upon him, of consecrating himself, and all his powers to the Saviour. The man who declines the missionary work at home, because he cannot prosecute it abroad, has no missionary spirit at all.

"The minister may be a missionary to the poor and ignorant at home ; and the physician or surgeon may be a Medical Missionary to the same persons. We know that it is possible to be a Medical Missionary in Ireland ; and there are many districts in that 'Emerald Isle' where there are darkened minds and yet warm hearts, and where a Christian medical practioner will do more for the moral and physical wants of the poor, than any other agent of philanthropy. And are there not in Scotland and in England not a few stations of which the same thing may be averred ? We need not travel out of Edinburgh to find such stations. Many of you know the West Port, the Grassmarket, the Cowgate, the Canongate, and know that a Medical Missionary is needed in each of these localities. It is cheering to know that not a few of the practitioners in Edinburgh already fulfil that office, although no society has appointed and sent them forth. There are students also in training for the same work. They are not the least promising alumni of the University, and not the least exemplary in their deportment. The young man who, in the surgery or shop, retains his integrity when others forget it ; who cultivates purity of life, when others wallow in vice ; who, consistent himself, kindly, yet firmly, reproves the errors of others ; who induces them to frequent the public worship of God as sedulously as the lectures of their

teachers; who leads them to value the Scriptures, and to make them the subject of their diligent perusal; who strives to raise the tone of moral conduct in all around him, and in himself also, up to the standard of God's law, and to the example of God our Saviour;—that is a Missionary, and will obtain the Divine approbation, and the Divine reward." (pp. 179-183.)

Lecture IV—on the Duties of a Medical Missionary—by the Rev. J. Watson, is highly practical, and well-suited to afford information to those who contemplate entering upon the field of Medical Missions. We regret that we are unable to afford space for extracts, as they would require to be of considerable length to render them of any service to the reader.

Lecture V. When all is excellent, it is difficult to praise with sufficient discrimination; but we can conceive of no discourse more calculated to do good among the members of our profession, than that of Dr. George Wilson, on The Sacredness of Medicine. If printed off as a separate tract, and freely circulated among medical men, it might, we believe, very eminently subserve the cause of humanity and truth. It would indeed be a blessing to society, if the majority of medical men were actuated by the principles therein laid down: and to themselves the advantages would be as great. After all, Christianity is the only safe foundation on which to rear a code of ethics suited to bind together in one harmonious brotherhood our distracted ranks, and to save them from being the prey of ill-regulated coteries, or individual assaults.

Dr. Wilson takes up high ground: but we do not think that he goes one whit too far. If a physician be a Christian, he must act the part of a Christian in all circumstances, and not abstain in the chambers of sorrow, of sickness, and of death. Rarely may it be proper for him, and still more rarely may his special and often urgent avocations permit him, to administer religious consolation with fulness and formality, but he may often pave the way for others, on whom this duty devolves. Life and health, be it remembered, are the most likely seasons for the minister's usefulness. How often, alas! has it been our melancholy lot to witness the dying sinner seeking, when it was too late, the advice of the minister; for, even when death is postponed, the pain, the delirium, the weakness, or the listlessness of disease, too often renders useless the needed statements and appeals. In such cases, the best spiritual friend in the sick-room is undoubtedly the pious physician. He may be able gently to instil comfort and instruction, when more formal inculcation would not be received. He may time and adapt his observations to the varying bodily condition of his patient. Thus, truly and eloquently, writes Dr. Wilson:—

"'Not poppy, nor mandragora, nor all the drowsy syrups of the world', will overcome the wakefulness of despair; and a tortured conscience, even without the help of insanity, can often resist all the calmatives, and anodynes, and anæsthetics of the Pharmacopœia. The 'Materia Medica' has, of necessity, a moral as well as a physical department—a religious as well as a chemical or botanical storehouse, from which to draw remedies. Layman though the physician is, he is invested with some of the clerical functions; and, though he does not share in clerical dignities or honours, he does in responsibility, and cannot throw it upon the clergyman's shoulders. He must serve at some altar, though it be that of atheism, and be the minister of a known, an unknown, or a no God." (p. 225.)

These last words are terrible; but they are true.

We earnestly recommend these Lectures to the perusal and study of the profession: and we hope that many may go forth from among us, under the banner of the Medical Missionary Society, to bless a diseased and ruined world. Here, we must pause, reserving the consideration of Dr. Coldstream's lecture to another occasion.

(To be continued.)

Somnolism and Psycheism, otherwise Vital Magnetism or Mesmerism. With an Appendix. By Joseph N. Haddock, Surgeon-Apothecary. pp. 73. London: 1849.

In this dull weather, it is refreshing to meet with a really facetious book,—a book which makes us laugh in spite of a fog without, and bile within. We are not quite sure whether the author of the work before us is a wag who, with a grave face, has put forth a satire upon the subjects of which he professes to treat, under the sober garb of serious earnest,—a sort of Theodore Hook in a Quaker's costume, mystifying the public, (as poor Theodore loved to do in his best days,)—or, (which seems scarcely probable,) a visionary who has faith in what he writes. We incline to the former belief, and thank him for having helped us to pass, very pleasantly, what would otherwise have been a dull evening. The book is, altogether, rather of an astonishing character, like the *Travels of Baron Munchausen;* but the raciest parts are the experiences of a certain Miss Emma, a damsel "five feet two in height, of rather sallow complexion, and of a nervous bilious temperament". This young lady is supposed to be experimented on by the author, and we have met with writers of fiction less successful than he. The following is by no means bad: it indeed reminds us of our ancient friend, one Lemuel Gulliver, who visited foreign parts, and saw rather strange things. The allusion to the necessity for forbearance, lest harm should arise from over-excitement, is a masterly touch.

"Having heard of clairvoyants visiting the planets, I determined to try the experiment with Emma. I therefore proposed *an excursion to the moon*, and not then knowing how to direct her attention to such distant objects, and she herself being, at the time alluded to, wholly ignorant of the mode by which a knowledge of distant things is obtained, and fancying that she actually travelled by some mode, I suggested the *electric telegraph* as an expeditious mode of conveyance. The suggestion answered the purpose, and she was, mentally, soon on our satellite. But on that and subsequent occasions, the great excitement produced by the strangeness of what she saw, and the *distance travelled*, caused such a palpitation of the heart, as to render it necessary to *shorten the visit* by de-mesmerising her; being fearful that the great physical excitement might produce some serious effect on her health, if not immediate danger. Her description of what she saw was conveyed in very ejaculatory language, from the surprise and pleasure she experienced. Her statements were to the effect that the moon is inhabited; that the inhabitants she saw were very small—dwarfs—not larger than children on our earth; their heads were large in proportion to their bodies, and the mouth *vertical* rather than *horizontal;* their voices harsh, and rough, and resembling the sound of distant thunder; and when they spoke, the speech seemed to come up from the bowels. Their 'insides' were not quite like ours; the lungs especially were different. She saw some food, something that looked somewhat like bread, but they did not call it by that name. She saw only one animal, something like a very small pig. There *(sic)* dwellings were constructed of pieces of rocks, covered over with green stuff resembling gorse; they were very low, for she could put her hand to the top. The place did not look like what she conceived the moon to be, but a large place, and very rocky, with immense precipices and lofty mountains. The 'little folk', as she called the inhabitants, could clamber up these rocks with their hands and feet, so fast that she could not catch them. Is there any water there? Yes, 'but it does not look like our water, but more like milk and water, and yet it is clear (meaning probably that it is of greater density than our water). It lies in the bottom of hollows, and down the steep precipices. The 'little folks' can walk upon this water and not sink: they are very light. They wear clothes, but they are very simple, and all alike. They seem a good sort of people. They have a curious way of jumping on the backs of each other. A very little baby was seen in a sort of cradle; it died; they said

what signified that it had gone to sleep; but they did not mean sleep, but that it was dead." (p. 59.)

This young lady would indeed be a formidable rival to Lord Rosse, and her *long range* would beat hollow that of Captain Warner!

We have treated of this work as an amusing satire upon human credulity. Could we have supposed it written with any other object, we should have thrown it aside with indignation, as an outrage upon common sense, and an exposition of false and impious philosophy.

Stricture of the Urethra and Fistula in Perinæo. By James Syme, F.R.S.E., Professor of Clinical Surgery in the University of Edinburgh. pp. 72. Edinburgh: 1849.

The author, in his preface, states that he has been stimulated to the publication of this work by the circumstance of a plan of treatment made known by him five years ago, having met with unmerited neglect by the profession; which would certainly appear to be the case, if "it has not yet been adopted by others," so far as he knows, "even in a single instance." In this opinion, however, he is mistaken, as may be seeing by referring to p. 1068 of our volume for 1849, and p. 61 of the present number. Two objections, probably, have weighed with practitioners generally, and with patients also, against urethrotomy; namely, the repugnance entertained to so decided an operation, except in very desperate cases, and the skill necessary to enable a surgeon to perform it with that confidence which is no small element in success. We entirely agree with the author that, in cases where the life of the patient is rendered absolutely miserable by suffering produced by hopeless Stricture, and a thoroughly diseased Urethra, the operation described is the very best course that can be pursued; but we doubt whether many patients or surgeons will assent to the proposition that such a step is desirable "in cases of less obstinacy, but still requiring the frequent use of bougies." For so skilful an operator as Mr. Syme, it is, we doubt not, an easy matter to cut down upon the urethra, and perform the operation adroitly, and this must be taken as some explanation of his success, which has been great; but we think that the commonality of surgeons ought to pause before they cut a patient, whose case appears to admit of a fair amount of relief by ordinary treatment. The following is an account of the operation recommended. The patient "should be brought to the edge of his bed, and have his limbs supported by two assistants; one of them standing on each side. A grooved director, slightly curved and small enough to pass readily through the stricture, is next introduced, and confided to one of the assistants. The surgeon sitting, or kneeling on one knee, now makes an incision in the middle line of the perinæum or penis, wherever the stricture is situated. It should be about an inch, or an inch and a half, in length, and extend through the integuments, together with the subjacent textures exterior to the urethra. The operator then taking the handle of the director in his left, and the knife, which should be a small straight bistoury, in his right hand, feels with his forefinger, guarding the blade for the director, and pushes the point into the groove behind or on the bladder side of the stricture, runs the knife forwards so as to divide the whole of the thickened texture at the contracted part of the canal, and withdraws the director. Finally, a No. 7 or 8 silver catheter is introduced into the bladder, and retained by a suitable arrangement of tapes, with a plug to prevent trouble from the discharge of urine." p. 41.

The patient has merely to remain quietly in bed for forty-eight hours, when the catheter should be withdrawn, and all restraint removed. The urine sometimes maintains its proper course from the first, but more frequently passes in part through the wound for some hours, or it may be a few days; at the end of eight or ten days, a moderate sized bougie should be passed, and repeated once a week or fortnight, for two months. In most

cases, the cure may then be considered to be complete. Unquestionably, such a proceeding, severe though it may seem, would be considered preferable by many, whose occupations or positions in life are seriously interfered with, by the torture of a diseased urethra and an irritable bladder. We are therefore happy to assist Mr. Syme in making this operation more known, hoping that when placed fairly on its trial, it may obtain a favourable verdict.

Sir B. Brodie, in his valuable Lectures on Diseases of the Urinary Organs, describes Fistula in Perinæo as being the result of ulceration behind the stricture, from the pressure of the urine; and Fistula in Ano as being formed in the same manner, by ulceration of the rectum allowing the escape of a minute quantity of feculent matter into the neighbouring textures. From this view of the case Mr. Syme entirely dissents, describing the process as the formation of an abscess close to the external side of the mucous membrane, whether of the rectum or urethra, and having no connexion whatever with the interior of the canal, in the first instance, although a communication is subsequently formed by ulceration.

The treatment adopted by Mr. Syme, in cases of Perinæal Fistula, is simple dilatation of the urethra in the milder cases; in the more severe, he practises the perinæal incision already described.

We need hardly add, that this Essay, like every production of Mr. Syme, deserves the earnest and careful consideration of surgeons.

Essays on Syphilis. Essay I. Syphilitic Sarcocele. By J. Hamilton, Surgeon to the Richmond Hospital, Dublin. pp. 40. Plates 11. Dublin: 1849.

The Author justly observes, that a hospital surgeon of moderate observation and diligence, cannot fail to discover, in the vast mass of disease submitted to his care, something which may be considered as an addition to the knowledge already existing. Acting upon this principle, he proposes to publish essays, containing the result of his experience; and the first of the series of these is before us.

Mr. Hamilton divides the Syphilitic Sarcocele into *Simple* and *Tubercular*, the latter form being the most common. The Simple Syphilitic Sarcocele is met with in persons of healthy constitution, and is generally accompanied with secondary eruptions, occasionally by iritis, periostitis, and ulcers in the throat. Its characteristics are, ovoid enlargement of the testis, which is hard and heavy, but not painful, though large in size, and slow in progress; one testicle only is usually affected, and he has never seen suppuration occur; in this, and also in the tubercular form, there is almost always effusion of fluid into the cavity of the tunica vaginalis. In the simple disease, the treatment recommended is a steady and protracted course of mercury, which is the only certain means of cure; after the mercury has been discontinued, the hydriodate of potash may be used with advantage for a fortnight. The local treatment consists of leeches and lead lotion, if there be pain and tenderness; if not, mercurial unction to the scrotum, followed by the application of dilute ointment of iodide of potassium.

The characteristics of Tubercular Syphilitic Sarcocele are, increase of the organ in size, with irregularity of shape, and both testes are usually affected, one being worse than the other; there is much constitutional disturbance, and aggravated secondary symptoms. In this form, slow suppuration occasionally presents itself, leaving either a fistulous opening, or a protruding fungus. A combination of mild mercurial treatment, with the administration of iodide of potassium, has been found most successful in subduing this form. We are a little startled, however, at finding the mild mercurial recommended, is *ten* grains of blue pill at bed-time for a week or ten days, and subsequently, five grains. Such doses are not trifles.

We trust that Mr. Hamilton will meet with sufficient encouragement to carry out his intentions; and we hope that other hospital surgeons, with similar extensive opportunities for observation, will follow his laudable example.

THE FIRST ANNUAL REPORT OF THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST. Presented to the Committee of Management, by the Physicians of the Institution. London: 1849.

The valuable Report before us contains the conclusions drawn from a statistical analysis of 4,358 cases of phthisis, treated at the Hospital for Consumption, from its establishment in the year 1842, to the end of 1848.

It is arranged under the following heads:—

I. The number of patients treated, and the facts in their history which have reference to the origin and progress of Consumption.

II. Some of the principal signs and symptoms of the disease.

III. The duration of the disease and the result of treatment.

I. The entire number of phthisical patients admitted into the hospital was 888; and 3,470 were treated as out-patients. The total number of out-patients was 10,051.

SEX.—Of the cases of phthisis, sixty-one per cent., in both in and out-patients, were males; and thirty-nine per cent. females. This preponderance of males is at variance with the statement of Louis and other observers, and with the Report of the Registrar-General for 1842, which states that, in the provinces, 24,048 males, and 28,098 females, died of phthisis. It agrees very closely, however, with the report made by Dr. Home, of the cases of phthisis in the Royal Infirmary of Edinburgh, in the years 1833, 1834, and 1836, in which it is stated that of 297 such cases, 185, or 62·3 per cent., were males, and 112, or 37·7 per cent., females.

AGE. The compilers of the Report find, that, taking the sexes collectively, the period of life most liable to Consumption is, in both sexes, from twenty-five to thirty-five years of age. The disease occurred in this period of life in 953 males out of 2,679 cases, or nearly 36 per cent.; and in 578 out of 1,679 females, or in a little more than 34 per cent. Under this period, the liability is greater in females by nearly 10 per cent.; above, it is greater in males, by about 12 per cent. This difference perhaps depends, in some measure, on early predisposition, which more readily affects females, and on the occupations of males exposing them more to the exciting causes of disease at a later period of life.

SOCIAL CONDITION. The following table exhibits the social condition of 4,056 of the patients treated.

		Males.	Per centage of the total No. of Males.	Females	Per centage of total No. of Females.	Total of both Sexes.	Per cent. of both Sexes.
Single . .	Under 25	633	25·2	540	35·0	1,173	28·9
	Over 25	475	18·8	319	20·6	794	19·5
Married	Under 25	100	3·9	94	6·0	194	4·8
	Over 25	1,240	49·3	489	31·7	1,729	42·6
Widowed—All ages		66	2·6	100	6·4	166	4·3
Total		2,514		1,542		4,056	

TRADES AND OCCUPATIONS. The occupations of 4,358 patients are classified under the heads of in-door, out-door, and mixed. Of those following in-door occupations, 1,688 were males, and 1,679 (the total number) females. Of those employed in out-door works, there were 798 males; and of carpenters, painters, and glaziers, whose occupation is mixed, there were 193. "The relative liability of persons following in-door and out-door occupations to Consumption would seem, from the records of this hospital, to be as 63 per cent. of in-door males to 30 per cent. of out-door; and all the consumptive females followed in-door occupations. If it were possible to ascertain the precise number of persons engaged in the various in and out-door occupations

in London, we might, by comparing them with the numbers just stated, arrive at correct conclusions as to the effects which such occupations are calculated to produce; but in the absence of this information, we must confine ourselves to a comparison of the apparent influence which in-door and out-door occupations have in the production of Phthisis, with that which they appear to have in inducing other diseases. At this hospital, the in-door occupations of males and females form 77 per cent. of the whole; at a general hospital, 85 per cent. Out-door occupations form 18 per cent. of the whole at this hospital; at a general hospital, 9 per cent. The difference, therefore, is not that which would warrant the inference, that in-door occupations in themselves have a greater tendency to produce Consumption than any other disease; on the contrary, the in-door occupations of the patients at this hospital are 8 per cent. less than at a general hospital, whereas the out-door are 9 per cent. more." (p. 15.)

A much larger number of persons following certain employments seek relief at this hospital, suffering from Phthisis, than of those following other occupations. But we must bear in mind, that the numbers of persons pursuing different occupations vary very greatly; and it would be desirable to know the number of persons engaged in each occupation. "This not being practicable, we avail ourselves of the means at our disposal, of comparing the numbers which represent the occupations of the consumptive at this Hospital, with those which represent similar occupations at one of the London Hospitals for disease in general. This comparison will afford us the means of judging how far such pursuits render those, who are engaged in them, more liable to Consumption than to other diseases. Thus, if we compare the 18 per cent. of out-door labourers with the 10¼ per cent. of the same class who attend a General Hospital, we can say that there are nine consumptive persons of this class to five of the same class suffering from other diseases, requiring Hospital assistance. Whilst, if we compare the 3·0 per cent. of printers and compositors at this Hospital, with the 1 per cent. of the same occupation at a General Hospital, we conclude that printers and compositors are more liable to Consumption than to other diseases, in the proportion of nearly 4 to 1, and, therefore, are sufferers to a much greater extent from this disease than the class last named. Amongst clerks and shopmen, the proportions are nearly the same as the last, viz. 4 to 1. Proceeding with the comparison, we find two in-door male servants at this Hospital, for one at a General Hospital. Tailors are in the proportion of 7 to 6, &c. &c. Amongst females, the great variety and number of persons included under the designation of domestic employments, forbid any attempt at drawing inference as to the special influence of their occupations. The next class is that of needlewomen and milliners, which, whilst it represents 18¾ per cent. of all the females attending this Hospital, is found to constitute 13 per cent. of the sick at a General Hospital: thus, while the persons following these occupations are shown to be very liable to Consumption, it will be noticed that they constitute also a large proportion of those attending a general Hospital. Tailors likewise are numerous at both institutions. Clerks and shopmen, printers and compositors, as already mentioned, rank high amongst the patients at this institution. Hence the inference is a correct one, which assigns to these different occupations the power of exerting a more or less injurious influence on the health of those engaged in them: for, whilst some are rendered liable to both Consumption and disease in general, others, who are less liable to disease in general, are particularly so to Consumption.

"In drawing these inferences, however, as to the effects of different employments, it cannot be denied that other influences are often conjoined with those necessarily belonging to the occupation itself: for example, hereditary predisposition, intemperance, deficient food, want of cleanliness, etc. These circumstances must all be kept in view, in forming any opinion as to the injurious effects on health of any particular occupation. On the other

hand, there are certain pursuits which, it may be said, almost independently of these conditions, exercise a directly injurious influence on the health of those engaged in them—particularly those which compel persons to work in close, ill-ventilated, and over-heated rooms, sitting for many hours each day in a posture unfavourable to the free action of the muscles of respiration, breathing an impure atmosphere, and restricted from taking exercise in the open air. These are the circumstances which appear to render so painfully prominent the class of clerks, milliners, printers, tailors, in-door servants, &c. Persons thus occupied soon feel the effects of these injurious influences; and if they have any tendency to tubercular disease, it rarely fails to develope itself. Several striking instances presented themselves of young men and women from the country, previously in good health, who soon fell victims to Phthisis under these circumstances. It is greatly to be desired, that the employers of such persons should endeavour to obviate these evils, by not requiring too long service, by allowing time for exercise in the open air, and by taking care that the offices, in which the employments are carried on, be properly warmed and ventilated." (pp. 16-18.)

Hereditary Predisposition. In investigating this subject, the authors of the Report have carefully borne in mind the fact, that the hereditary transmission of disease is not necessarily direct, but that a healthy, or apparently healthy generation may intervene between two in which disease is exhibited. In examining into the influence on the offspring of disease in the parent, they have inquired into the state of health of the parents of 1,010 phthisical patients. If the inquiry were extended to a preceding generation, and to collateral relatives, the influence of predisposition would probably be shewn to be still greater. The following table exhibits the result.

Sex.	Cases of Consumption.	Predisposed by Disease in Parent.	Per Cent.
Males.....	669	122	18·2
Females	341	124	36·3
Total	1,010	246	24·4

This table may be compared with the statistics of other diseases, as regards hereditary predisposition. In insanity it is found that, "in males, insanity is an hereditary disease in nearly 12 per cent. of the cases observed, while Consumption is so in 18 per cent. In females, insanity is hereditary in about 13·5 per cent., Consumption in 36 per cent. In both sexes, taken together, the per centage of Insanity is 12·5, of Consumption 24·5. Thus the probability of Consumption being transmitted to the offspring by a parent affected with that disease, is as two to one when compared with the probability of the transmission of Insanity from an insane parent." (p. 20.)

The table shows also, that daughters are more liable to inherit consumptive disease from their parents, in the proportion of two to one. As to the relative influence of the father and mother, it has been found that the father transmits consumptive disease to the sons in 59·4 per cent., to the daughters in only 43 5 per cent. The mother to the sons in 40·6 per cent., but to the daughters in 56·5 per cent. Remarkably similar results appear in the last Report of the New York State Lunatic Asylum.

II. Under the head of Symptomatology, the Report treats of Spirometer Observations and Hæmoptysis.

Spirometer Observations. Four hundred and fifteen phthisical patients have had the capacity of their lungs for air tested by Dr. Hutchinson's Spirometer. The results are exhibited in the following tables; in which, it will be observed, the cases have been carefully compared with healthy standards.

Comparison of Healthy and Diseased Cases in the First Stage of Phthisis, or before Softening. (All Males.)

No. of Cases.	Age.	Height.	Vital Capacity.		Difference.	REMARKS.
			Healthy.	Diseased.		
		Ft. In.	Cubic Inches.	Cubic Inches.	Cubic In.	
1	28	5 8	238	186	52	
2	28	5 4½	206	140	66	
3	37	6 2½	286	270	16	
4	20	5 3¼	198	120	78	
5	27	5 7	230	85	145	Both sides, and emphysema.
6	45	6 0½	270	200	70	
7	36	5 6½	222	182	40	
8	36	5 5½	214	170	44	
9	35	5 7	230	160	70	
10	38	5 10¼	254	140	114	Both sides, and emphysema.
11	33	5 7	230	80	150	Much affected on both sides.
12	28	5 7½	230	180	50	
13	27	6 1½	274	260	14	
14	24	5 6¼	222	190	32	Murmur heard over pulmonary artery.

Comparison of Healthy and Diseased Cases in the Second Stage of Phthisis, or after Softening. (All Males.)

Number of Cases	Age.	Height.	Vital Capacity.		Difference.
			Healthy.	Diseased.	
		Ft. In.	Cubic In.	Cubic In.	Cubic In.
1	27	5 6	214	86	128
2	21	5 5½	214	60	154
3	45	5 9¼	246	85	161
4	30	5 6¾	222	70	152
5	33	5 8½	238	70	168
6	26	5 6¼	222	50	172
7	28	6 0	262	70	192
8	38	5 8	238	60	178
9	41	5 9¾	246	90	156
10	42	5 8	238	60	178
11	29	5 5½	214	50	164
12	32	5 7	230	70	160
13	42	6 0	270	140	130
14	29	6 2	286	150	136

The average vital capacity of 415 phthisical patients, taken indiscriminately, without reference to the stage of the disease, was 129 cubic inches, the average capacity of the same number of healthy subjects being 222 inches. Of these, 241 were in the stage before softening, and had an average vital capacity of 149 cubic inches; 174 were in the stage after softening, and had a vital capacity of only 105 cubic inches, in contrast with 221, the healthy average.

The authors evidently—and probably justly—consider the Spirometer to be an important aid in diagnosis. It "gives distinct indications at an early period of the malady, and these indications become more obvious in proportion to the progress of the disease. For instance, in the first stage, the diminution of vital capacity, in a range of 241 cases, is 74 cubic inches; but in

174 patients, after the stage of softening, the diminution is no less than 116.

"It is proper to mention that some patients, in their early trials with the instrument, in consequence of nervousness or inexperience, do not expire an amount of air equal to their vital capacity. In such cases, therefore, unfavourable conclusions must not be too hastily drawn; but, on the other hand, whenever an individual under six feet expires his average quantity, it may, we think, be generally inferred that he is free from tubercular disease. In various individuals, in whom there were circumstances calculated to excite some suspicion of the existence of disease, the favourable indications furnished by the Spirometer have enabled the medical officers to pronounce an encouraging opinion, which, in the sequel, has been confirmed. It must be added, that various other circumstances may prevent a patient from expiring the average quantity of air indicated by his height, such as pneumonia, emphysema, hernia, or abdominal tumours, diseased heart, etc. A deficiency of vital capacity alone cannot, therefore, be considered a proof of the existence of Phthisis; but these tables are given for the purpose of showing that, where Consumption was present without any of these accidental circumstances, the vital capacity, in all the cases, was more or less diminished." (pp. 26-7.)

Hæmoptysis. Considerable attention has been paid to the occurrence of this phenomenon. In 910 males, it was present in 563 cases, or in 62 per cent.; in 471 females, it was observed in 307 cases, or in 65 per cent. The cases of *spitting of blood* by non-phthisical females, arising from irregularities peculiar to the sex, have been carefully excluded from the list. Observations on the age at which Hæmoptysis most frequently occurs, were made in 1084 cases—706 males and 308 females. The following table shows the existence or non-existence of Hæmoptysis in these, the cases being arranged, according to the sexes, in decennial periods; also the per-centage of the cases in which Hæmoptysis occurred.

Age.	Hæmoptysis occurred.		Hæmoptysis did not occur.		Total of Cases observed.		Hæmoptysis occurred per cent.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
0 to 5	0	3	2	4	2	7	...	42·9
5 to 10	7	32	14	9	21	41	33·3	78·0
15 to 25	124	107	85	45	209	152	59·3	70·4
25 to 35	175	59	71	42	246	101	71·1	58·4
35 to 45	115	35	48	25	163	60	70·6	58·3
45 to 55	29	7	23	8	52	15	55·8	46·7
55 to 65	3	0	10	2	13	2	23·1	...
65 to 75	0	0	0	0	0	0	...	...
Totals	243	243	253	135	706	378	64·2	64·3

"Of the 706 males, 453 had Hæmoptysis; and of the 378 females, 243 were similarly affected; being in each sex, on the whole number, in the ratio of 64 per cent. Dividing the period of life during which Phthisis occurs, according to our observations—that is, from birth to 70 years of age—into two equal intervals, viz., from infancy to 35 years, and from 35 to 70, we find in these periods respectively, that in males under 35 years, Hæmoptysis occurred in 306 out of 478 cases of the disease, being in a ratio of 64 per cent.; whilst in 301 females, at the same period of life, it occurred in 201 cases, being in the ratio of nearly 67 per cent.: hence the inference may be drawn, that Hæmoptysis is slightly more frequent in the first of these periods in females than in males. In the second period, that above 35, we find Hæmoptysis to have occurred in 147 males out of 228 cases, being again in the ratio of about 64 per cent.—very nearly that of the antecedent period in

the same sex; whilst 42 instances of Hæmoptysis were met with in 72 cases in females above the age of 35, that is, in the ratio of 54·6 per cent." (p. 29.)

The stage of the disease in which Hæmoptysis occurred was noted in 696 cases; 453 males, and 243 females. In the stage previous to softening, it occurred in 333 males, and in 176 females. In the stage subsequent to softening, or the formation of cavities, the Hæmoptysis was found present in 120 males, and in 67 females. Hæmoptysis is thus shown to be much more frequent in the first period of the disease, and nearly equally so in both sexes.

III. The Duration of the Disease has been observed in 215 cases, in which it had been ascertained with tolerable accuracy. The following are the results:

"Phthisis rarely proves fatal in less than three months, only one case being recorded as having been fatal within that period. The disease existed in 22 of the 215 cases for a period of between three and six months; of these 22 cases, 11½ per cent. were males, and a little more than 7¼ per cent. were females. In 36 cases, the disease lasted from six to nine months; of these, 19 per cent. were men, and 12 per cent. women. The disease existed for a period of from nine to twelve months in 30 cases, of whom about 15 per cent. were males, and nearly 12 per cent. females. The half-yearly periods, extending from twelve months to four years, contain, in each period, with one trifling exception, a decreasing number of cases. For whilst we observe that nearly 17 per cent. of the cases have a duration of from six to nine months, not 2 per cent. are found in the period from three and a half years to four. Fourteen persons, that is 6½ per cent., lived for periods above four years. We observe also, that considerably more than half the entire number of cases were fatal within a period of eighteen months,—the numbers being 123 to 78. In reference to the influence of sex, we observe a remarkable fact, viz., that the disease is more rapidly fatal amongst males than females: thus, of the 123 cases which terminated within eighteen months, 89, or 60·5 per cent., were males; whilst only 34, or 50 per cent., were females. After a period of eighteen months, the duration is reversed,—of 78 cases, 47, or 31·9 per cent., were males; whilst 31, or 45·5 per cent., were females." (p. 33.)

Results of Treatment. These have been observed in 535 in-patients, classified according to age, sex, and the stage of the disease. They are exhibited in the accompanying table:

Ages.	Sexes.	First Stage.						Second Stage						Third Stage.						Total.
		Relief.	Much relief.	Arrest.	Non-arrest.	Death.	Total.	Relief.	Much relief.	Arrest.	Non-arrest.	Death.	Total.	Relief.	Much relief.	Arrest.	Non-arrest.	Death.	Total	
0 to 5	Males	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Females	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
5 to 15	Males	..	..	2	..	..	2	1	..	..	..	..	1	1	1	..	1	1	4	7
	Females	2	..	..	..	..	2	1	..	..	..	..	1	..	..	..	..	1	1	4
15 to 25	Males	9	11	2	1	..	23	6	3	1	3	..	13	9	12	2	13	17	53	89
	Females	23	21	3	2	..	49	2	2	..	..	1	5	6	5	1	9	9	30	84
25 to 35	Males	11	14	3	1	1	30	9	5	..	1	..	15	18	8	3	13	20	62	107
	Females	10	10	3	2	..	25	4	1	..	..	..	5	14	6	1	7	16	44	74
35 to 45	Males	12	6	..	2	..	22	5	..	..	1	..	6	15	8	1	9	18	51	79
	Females	4	3	..	..	..	7	1	1	1	..	..	3	4	2	2	6	8	22	32
45 to 55	Males	12	8	3	..	..	23	2	1	..	..	..	3	6	2	..	2	4	14	40
	Females	..	2	..	..	..	2	..	1	..	..	..	1	2	..	..	4	1	7	10
55 to 65	Males	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	3	4	4
	Females	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
65 to 75	Males	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	2	2
	Females	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1
All ages.	Both sexes.	85	75	18	8	1	187	31	14	2	5	1	53	77	44	10	66	98	295	535

The per-centages of the preceding results are thus shown:

Stages.	Sexes.	Relieved per cent.	Much relieved per cent.	Disease arrested per cent.	Disease not arrested per cent.	Died per cent.
First	Males	44·0	39·0	12·0	4·0	1·0
	Females ...	47·1	41·3	6·8	4·5	0·0
Second ...	Males	60·5	23·6	2·6	13·1	0·0
	Females ...	53·3	33·3	6·6	...	6·6
Third ...	Males	26·8	16·3	3·1	20·5	33·1
	Females ...	24·7	12·3	3·8	25·7	33·3
All	Both	36·0	24·8	5·6	14·7	18·6

Among the out-patients, as far as could be observed, the symptoms in the first stage were more or less relieved in about 35 per cent.; in 33 per cent., they are much relieved; in 18 per cent., the disease appears to have been arrested; in 12 per cent., it passed into more advanced stages. In the second and third stages together, there was relief in about 23 per cent.; in 24 per cent., the relief was material; in 4½ per cent., the disease was arrested; in 48 per cent., it remained unchecked, or proceeded to a fatal termination.

Treatment. The remarks under this head appear to us so valuable, that we extract them entire:

"In making some observations on the treatment of Consumption pursued at this institution, the medical officers feel it a duty to bear testimony to the judgment evinced in the selection of a site for the hospital, and to the excellence of the arrangements for promoting the health and comfort of the patients. To those unacquainted with the locality, it will be necessary to say, that the hospital is built on a dry gravelly soil, in a suburb of the metropolis long celebrated for its salubrity, sheltered on the north and east by the whole of the metropolis, and open to the south and west; the wards are lofty, and of moderate size; the corridors light and capacious; whilst the coldness and dampness of our atmosphere, so highly injurious in diseases of the respiratory organs, are corrected by the method of ventilation devised by Dr. Arnott, and which is so arranged as to supply warm fresh air, in a continuous stream, at the rate of 2,160 cubic feet per minute, thus allowing to each patient, during that time, more than 23 cubic feet. This air reaches the wards so modified, as to keep them at the uniform temperature of nearly 65° in winter and summer. There is thus provided for the poor a climate, nearly approaching that of the southern latitudes, the advantages of which can only be enjoyed by the more favoured portion of the community. The beneficial effects of these arrangements upon the patients are strikingly manifested in the great improvement which generally takes place in their symptoms soon after admission: the cough becomes less frequent, and the expectoration diminishes; they lose the anxious expression of countenance frequently attending the disease; and strangers, who visit the hospital, often express their surprise at the quiet and comfort of the patients, and their comparative freedom from cough. It is proper to mention, that though a majority of the patients are sensible of deriving benefit from the warmth of the atmosphere of the hospital, certain individuals, owing to peculiarity of constitution or disease, find it oppressive. A similar statement applies to Madeira and like climates.

"Of the strictly medical treatment of the disease, a detailed description would be inappropriate in the pages of this Report; the medical officers limit themselves, therefore, to a brief statement of the results of the use of a few particular remedies which have attracted attention.

"Much has been accomplished, especially at the early period of the disease, by acting upon those general principles, which are familiar to every medical practitioner, for strengthening the digestive powers, correcting pulmonary congestion, improving the condition of the blood, and administering those remedies which are considered suited to particular symptoms.

"*Naphtha.* Amongst the medicines alleged to have curative powers, a fair trial has been given to pyro-acetic spirit or naphtha. There are some complications of Phthisis, such as bronchitis, attended with profuse secretion, in which it has appeared occasionally to exert a favourable influence—moderating the secretion, improving the appetite, and increasing the strength; but it was not observed to possess any specific power of suspending or ameliorating tubercular disease of the lungs; and, in many cases, it acted very injuriously.

"*Iron.* The pale and anæmic condition of many consumptive patients, and the deficiency of red globules in their blood, (as shown by the experiments of Andral and Gavarret,) naturally suggested to us, in common with the profession, the use of iron; especially as, when administered to the lower animals, this agent is stated to possess the power of arresting the formation of tubercles. It has been used in different stages of the disease, and in various forms, such as the iodide, phosphate, sulphate, sesquichloride, and citrate. During the first stage of the disease, in the absence of pulmonary congestion and hæmoptysis, it has been found useful to the extent of arresting its progress; but the utmost benefit which persons in the later stages have derived from this remedy is, an increase of strength, and a temporary improvement of general health.

"*Cod-Liver Oil.* This substance is entitled to special notice, as having been productive of more good in the treatment of Phthisis than any other agent yet employed. The earliest trials of this remedy, made on a large scale, were those instituted at the hospital; and it has now been given in many hundred cases.

"Of 542 cases, 293 were in the first stage of the disease, and 249 in the second and third, or those stages subsequent to softening; of those in the first stage, 190 were males, and 103 were females. Applying to these cases the terms already used, it will be observed that 72 per cent. of the males, and 62 per cent. of the females, had their symptoms materially improved; in nearly 18 per cent. of the males, and in 28 per cent. of the females, the disease was arrested; in 10 per cent. of the males, and in nearly 10 per cent. of the females, the disease progressed unchecked. Of the 249 patients in the second stage of the disease, 139 were males, and 110 females. In 53 per cent. of the males, the symptoms were materially improved, and in nearly 61 per cent. of the females. In a little more than 14 per cent. of the males, and in nearly 14 per cent of the females, the disease was arrested. In a little more than 32 per cent. of the males, and in 25½ per cent. of the females, the disease was not arrested. Viewing these results collectively, we find that in about 63 per cent. the symptoms were improved; in 18 per cent. the disease was arrested; and in 19 per cent. it went on unchecked. When it is recollected that, of the whole number treated at this hospital, the disease was arrested in only 5 per cent, the value of this remedy, under the use of which the disease appears to have been arrested in 18 per cent. of the cases, must be considered very great.

"Different qualities of oil have been tried, without exhibiting any marked difference in their remedial effects; but the offensiveness of some of the darker kinds renders their general use impracticable. The oil now used is straw-coloured, transparent, and free from offensive smell. Patients, in general, take it without repugnance. The dose, at first, is 1 drachm three times a day for an adult; but it is gradually increased, in some few cases, to 1½ oz. for a dose It is usually administered in camphor-water, any aromatic water, bitter infusions, milk, or any other agreeable fluid. When there is great irritability of stomach, it has been given in mucilage of gum, with a few drops of hydrocyanic acid. In cases where there existed great anæmia and debility, and in those where the effect of the oil seemed slight, preparations of quinine and iron, especially the iodide, have been conjoined with advantage. It has appeared advantageous to intermit its use for a few days, when nausea and

feverishness, from whatever cause produced, are present. In certain cases, the use of the oil has been continued during the existence of slight hæmoptysis, without producing any injurious results.

"Other animal oils (not derived from the liver), and vegetable oils, have been tried with a view of ascertaining how far their operation resembled that of cod-liver oil. The experiments hitherto made have not shown them to possess the same powers; but they have not been as yet sufficiently often repeated to warrant decided conclusions.

"One of the most striking effects of the use of cod-liver oil is an increase in the patient's weight.

"It appears, that taking both stages of the disease and the sexes collectively, a gain of weight occurred in 70 per cent., a loss of weight in only 21 per cent.; and in about 8½ per cent. the weight remained stationary. The amount of the increase varied, being in some patients little more than one or two pounds during several months; whilst, in many, the average increase was from a pound to two pounds weekly during several weeks. Some very remarkable instances of great increase of weight have presented themselves, —thus, in one instance, 41 pounds were gained in 16 weeks; in another, 19½ pounds were gained in 28 days, and 10 pounds in the succeeding 10 days; in another case, 29 pounds were added to the patient's weight in 31 days. It must be observed, that an amelioration of the symptoms did not invariably follow an increase of weight, though the exceptions were rare. An aggravation of the symptoms and a diminution of weight were almost invariable coincidences. In a few cases the symptoms improved, though the weight remained stationary, or even became slightly diminished. It is right to mention that in some of the marked stationary in the Table, the first effects, though encouraging, were not permanent. In other cases, where the amelioration was still more considerable, and the progress of the disease appeared to have been stayed, relapse occurred, and was followed by a rapid progress to a fatal issue. That such cases do occur requires to be remembered, in order to restrain too sanguine expectations, and to prevent the remedy from falling into the discredit which disappointment after an unlimited confidence may induce. On the other hand, without entering into a description of the successive steps of amelioration experienced by patients (which have been already described under the head of Results of Treatment), it will suffice to say, that many of the cases included in the 18 per cent., in whom the disease is marked as arrested, felt themselves as well as they had been before the attack of the disease. In some of these cases there was, as already stated, a decided and progressive diminution in the local mischief. Comparatively few of such cases having returned to the Hospital after a lengthened interval, it is not too much to assume that the improvement is permanent,—it is so in some cases which are under observation.

"From these facts and a more extended experience, since the period at which this Report terminates, no other conclusion can be drawn, than that Cod Liver Oil possesses the property of controlling the symptoms of Pulmonary Consumption, if not of arresting the disease, to a greater extent than any other agent hitherto tried.

"*Inhalations* have been tried under a variety of circumstances, and with benefit to some of the distressing symptoms, such as cough and difficulty of breathing. Experiments, with a view of ascertaining the simplest means of using these agents, being now in course of trial, remarks on their use are reserved for a subsequent Report.

"*Counter-irritation* has been found useful in many cases in which local congestion existed, or in which cough and abundant secretion were distressing. In many of these cases, a solution of Iodine and Iodide of Potassium in Alcohol sufficiently strong to produce vesication, applied with a camel's-hair brush, was found remarkably beneficial.

"Night Sweats have been relieved in very many cases, by the use of Gallic

Acid in doses of five or six grains, combined with Morphia. In the treatment of diarrhœa, recent experience has shown that the Trisnitrate of Bismuth, when perseveringly administered, often proves a most safe and effectual remedy."

We hail this Report with satisfaction, as the first instalment of a series of valuable contributions to the Pathology and Treatment of Pulmonary Consumption. The physicians of the hospital at Brompton have turned to good account the means at their disposal. We hope that they will issue, from time to time, as they have promised, " equally systematic and definite illustrations, not only of subjects fully noticed here, but of others of equal interest ; and thus, whilst rendering the institution useful in developing or confirming scientific and practical knowledge, as well as in relieving the objects of the charity, to demonstrate how happily the advancement of science may be combined with the exercise of benevolence."

Report on Pulmonary Phthisis as observed at the Hospital for Consumption, Brompton. By Walter Hayle Walshe, M.D., Physician to the Hospital. In *British and Foreign Medico-Chirurgical Review* for January, 1849.

This is a very able and valuable statistical document. Dr. Walshe has preferred publishing a Report of his own ; and his name does not appear in the Hospital Report which we have just noticed, which is issued by and under the sanction of Dr. Walshe's colleagues —viz., Drs. H. Roe, Theoph. Thomson, G. Cursham, R. P. Cotton, R. Quain, and J. J. Bowie. In future, we would recommend conjoint reports.

Clinical Lectures on the Physical Diagnosis of Phthisis : delivered at the Hospital for Consumption and Diseases of the Chest. By Richard Payne Cotton, M.D., Assistant-Physician to the Hospital.

These Lectures recently appeared in the *Medical Gazette*. We have much pleasure in strongly recommending them to the notice of our readers.

Tic-Douloreux and other Painful Affections of the Nerves, with Suggestions for their Treatment, by means of the Aneuralgicon. By C. Toogood Downing, M.D. Pp. 73. London : 1849.

Dr. Downing being of opinion, that local applications have been too much slighted in the treatment of neuralgia, has directed his attention to the subject, and invented an apparatus with the above rather high-sounding name, which merits attention. By its means, a mild or a powerful stream of warm or hot vapour can be directed upon any part. The apparatus consists of a cylinder, in which medicinal herbs can be burnt ; bellows, for maintaining a current of air through the heated mass; with tubes and cones for directing the vapour. The chief effects observed have been of a sedative character ; and we can well imagine that a regulated stream of heated and medicated vapour, directed upon any spot in which the nerves are in a state of irritation, is likely to produce more powerful effects than could be caused by the ordinary sedative endermic method. Dr. Downing cites several cases, in which very remarkable benefit followed this treatment ; but he has the good sense to state that it cannot supersede general treatment, and does not always succeed, but is a useful auxiliary to the common methods adopted in the management of this distressing class of affections.

We have seen great benefit result in neuralgia, from the local application of even unmedicated heat ; and there is no better way of applying it, than by passing and repassing an iron, such as is used by laundresses, over the seat of pain. This is a much-esteemed, and, we believe, very useful domestic remedy in many parts of the country. When it fails, and when constitutional treatment is proving too slowly beneficial, we would certainly advise a trial of Dr. Downing's Aneuralgicon.

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

ANATOMY AND PHYSIOLOGY.

RETZIUS ON THE STRUCTURE OF THE LIVER.

Professor Retzius has examined the liver in the human being, in the dog, cat, rabbit, squirrel, pig, and ox ; and his researches have been, on the whole, confirmatory of the views of Mr. Kiernan. He has, some time since, stated his opinion that the Liver is originally acinose or lobular, but that, by various changes, the acini or lobules may become confused ; but they may regain their distinctness, under favourable circumstances. A portion of the Liver of a child six months old was examined. Before injection, the lobules were distinct ; but in the injected preparation, where the capillaries were entirely filled, there was no trace of interlobular partitions nor of cellular alveoli. The lobular structure was only shown by the white injection (white-lead), which was forced through the hepatic veins and their lobular branches into the central capillaries of the acini. The acini were thickly surrounded by an abundance of capillaries from the portal vein ; but even these did not indicate any distinct limits to the acini. In many places, the lobular capillary network was entirely filled by the injection thrown into it from the portal vein. It was evident from this specimen, that already in the sixth month after birth, the portal venous system, which has during intra-uterine life formed a part of the umbilical venous system, possesses a development far surpassing that of the hepatic vein. In large patches, especially in the right lobe, the injection, which was thrown into the portal veins, occupied the whole of the parenchyma, with the exception of the network of the hepatic ducts, and the central vessel. In other places, the injection had not passed into the finer portal twigs ; while the twigs of the hepatic artery, and the adjoining capillaries, were well filled. These arterial twigs gave a lobular or acinose appearance to this portion of the organ. This was especially the case at the surface, where the round ends of the intralobular vascular plexus were raised in the form of small white knots. The circumference of these lobules was partly uninjected, partly occupied by the network of the hepatic ducts. In the parts which the perilobular injection had not reached, there was an appearance of lobules with large interspaces ; but where it had perfectly penetrated, the smaller interlobular plexuses were entirely effaced. Where a longitudinal section had been made through the lobules, they were found, as Kiernan had represented, thickly set on the intralobular (sublobular) twigs, like sessile leaves, surrounded by a portal and biliary capillary network.

Especially interesting, in a well injected preparation, are the ultimate sheaths of Glisson's capsule, which follow the ramifications of the portal vein through the entire organ, until it gives off its perilobular twigs. Professor Retzius has been able to determine a remarkable fact, which Mr. Kiernan, though he had systematically rendered it probable, had not so successfully described,—that the biliary ducts form a network in the walls of this sheath, continuous with that in the lobules. The vessels surrounded by this sheath are, a pretty large portal twig, a somewhat smaller twig of the hepatic duct, and a small twig of the hepatic artery. These Glissonian sheaths appear to be situated where one would expect to find the perilobular septa. When the hepatic ducts are well injected, the sheaths are seen like rings, having the colour of the biliary ducts, with their walls covered or interwoven with a capillary biliary network, of as fine meshes as the lobular network. Mr.

Kiernan has without doubt seen this, and described it under the name of "vaginal branches" and "plexus". From this vaginal plexus, a network of biliary ducts proceeds in all directions, becoming interwoven throughout with the capillary vascular network; it also penetrates into the lobules. The only circumstance in which Professor Retzius differs from Mr. Kiernan, is that the latter describes as twigs or branches the extension of the biliary ducts, while it is in fact a network, in which neither stems nor branches can be distinguished.

The principal results at which Professor Retzius has arrived from the above examination, and from similar examinations of the Liver in the lower mammalia, are the following:—

1. That the Liver is originally lobular; but that the lobular structure may undergo various changes, and present various appearances of development. There may be confusion of the lobules, in conjunction with more or less regular development of the ramifications of the hepatic vein. That which is most in favour of the presence of the lobular type, is the constancy of the alveolar biliary network.

2. That the perfect biliary ducts, with their peculiar walls (the basement membrane of the English anatomists), without which they could not be perfectly injected, are regularly disposed tubes. Professor Retzius has also been able to directly to determine the presence of this membrane; and has found it, as described by Schrœder van der Kolk, a simple membrane, surrounding the angular as well as the round hepatic cells. This basement membrane may be rendered apparent by macerating a Liver in ether, then drying it, and cutting extremely thin slices. These become transparent when laid in water, and exhibit the proper membrane of the finest biliary network in single outline, surrounding the cells.

3. That no arterial network has been found in Glisson's capsule. The regular distribution of twigs from the portal vein and hepatic artery was not perceptible; but the perilobular vessels chiefly appeared as a network; and there appeared no regular or perilobular type in the larger twigs. In two other specimens from children of three years old, elegant hexagonal lobules were seen. In one of these, the injection of the hepatic artery had succeeded remarkably well. Besides the fine long twigs on the surface, each lobule had its own perilobular capillary network, of extreme fineness; but in none of these was the network of the portal vein so distinct, as the injection had penetrated into the network of the lobules, so that the periphery became less distinct. In one of these preparations, the perilobular part of the portal vein was seen giving off triradiate angular branches (*dreizweigige Eckenzweige*), as well as the regular peripheral twigs. [Abridged from *Müller's Archiv.* 1849. Heft. II.]

DE FROBERVILLE ON THE OSTRO-NEGROES OF EASTERN AFRICA.

The following interesting paper on a peculiar race of men existing in Africa, south of the Equator, was read to the Academy of Sciences of Paris, on the 5th of March last, by M. De Froberville:—

"The figures which I have the honour to bring before the notice of the Academy, have been moulded on the indigenous inhabitants of the eastern region of Africa, situate between the Equator and the Bay of Lorenzo-Marquès or Delagoa, and commonly denoted on maps by the name of Zanguebar, Maravi, and Monomotapa. During a residence of fourteen months in the islands of Mauritius and Bourbon, I have collected these anthropological specimens, amounting altogether to sixty heads and masks, all moulded on living subjects. These morphological documents are accompanied by thirty-one vocabularies of idioms spoken in the same region of Africa, by notes on the creeds, traditions, manners and customs of the original inhabitants, as well as by itineraries and a geographical chart of this hitherto little-known region.

A rapid *coup d'œil* is sufficient to recognize that the type of this race, to which I give the name of *Ostro-negro*, belongs to a negro origin. The general characters, which are most striking, and which justify the classification of these Africans among negroes, are the prognathous head, absence of mental protuberance, flattened nose, thick lips, woolly hair, and a more or less dark skin. To express myself with more precision, I would say, that these may be considered as forming a branch of the great family of subequinoctial negroes. This division is subdivided into four groups, as shewn by the casts. The first group presents analogies with the Congo-Guinean races, bordering on the west of the Ostro-negroes; the second approaches the type of the Cafro-Bechuanians, their neighbours on the south; the third group has a peculiar resemblance to the negroes of Oceania. The fourth group will presently occupy our attention.

The analogies between the types of the first two groups, and their neighbours on the west and south, are not easily explained by their vicinity. The more the Congo-Guinean, Cafro-Bechuanian, and Ostro-negro races are studied as a whole, under one point of view, the more is unity of origin determined. Every where there is evidence of a common parentage, even in the most minute details of social life; and when certain traits of custom do not appear to be alike in two neighbouring people, the similarity is invariably found in a third, but more remote tribe. These intimate ethnological relations are bounded by the Equator. A community of manners with the negroes now described, is well marked among the people of Northern Guinea; but this resemblance diminishes, as we advance north. The races of the north-east, Gallas, Soumali, and other Ethiopians, have no resemblance in manners or customs to the Ostro-negroes, and in their physical conformation only so far as they all belong to the immense negro family.

The resemblance between the third group of Ostro-negroes and the blacks of Oceania, has given rise to much perplexity. How can a conformity of type be explained in two peoples so distant from each other, and so little accustomed to navigation, and living in such different countries? Such a striking identity is not the result of chance; there has been a common point of departure. The problem, however, still remains unsolved; the means for its solution not having been yet matured. We possess a very imperfect acquaintance with the savages of Australia and the neighbouring islands; nor have we discovered the link which connects them with the negro tribes scattered throughout the Malay Archipelago, the south-west of Asia, and even in the interior of the peninsula of India. All conclusions on this point would be premature; but the fact is worthy of attention, being one of the most curious results produced by a comparison of the negro races.

I now enter on a question which we have greater probability of explaining. Besides the three groups already mentioned, there exists a fourth, originally produced by a mixture of the negro element with an element foreign to that race. I refer to the Africans with curved noses, head scarcely or not at all prognathous, and lips scarcely thick. The presence of physical characters so dissimilar and superior to those of the mass of the population would be easily explained, if it only occurred in one locality. But the hybrid type is scattered more or less equally among all the peoples of Africa, south of the Equator. It is found in the interior as well as in the maritime tribes; from the countries bordering on the Equator to the frontiers of the colony of the Cape of Good Hope; and, in my experience at least, it is nowhere sufficiently marked to constitute a distinct race. This geographical distribution, which makes the hybrid races on the banks of the lake Niassi (Maravi) exhibit the same degree of mixture as those of Caffraria or Quiloa, prevents us from determining, by a mere inspection of the physionomical characteristics of the Ostro-negroes, from what direction their ancestors came, and spread throughout Eastern Africa. But we see a proof, that the mixture of races took place at a very early period, and that the focus from which

have radiated the ethnological elements which distinguish these from the negro race, has long since become extinct. This conclusion is confirmed, also, by the absence of any distinction of caste, idiom, belief, or customs between those individuals who present the character of hybrids, and those in whom the negro form has been preserved in its primitive purity. The physical dissemblance, so striking to us, is entirely unnoticed by the natives.

The object of the present memoir is to inquire into the origin of the foreign element, which has thus been grafted on the original type of the Ostro-negroes. In examining into the traits of the hybrid race, we recognize a defaced imprint of the Semitic type. This is the first and clearest impression which we receive; and it is not without some confirmation. In the belief, manners, and customs of the Ostro-negroes, we find, in fact, the most striking resemblance to the ideas proper to the Semitic races. The traditions and religious rites of the Ostro-negroes have a Semitic tinge, which cannot be mistaken. The tradition of the fault and punishment of the first human pair, and of the drunkenness of Noah and his followers, the application of the name *Jiouva* to the sun, the appellation of "bow of the Good God," given to the rainbow, the idea that the meteor is a good sign, and that it drinks up the water from the earth, the observation of circumcision, the doctrine of legal impurity, and, finally, the pyrolatric worship of *Moulouk*, whose name scarcely differs from that of *Moloch*, the great Canaanite divinity in whose honour children were made to pass through the fire,—all these circumstances are so closely connected with the history of the Syro-Chaldean religions, that there can be no doubt that the Ostro-negroes are of Canaanitish origin. By inquiring more deeply into this hitherto unexplored subject, and by combining a curious local tradition with the historical accounts of Phenician navigators having sailed along the coast of Africa, we are led to recognize the fact, that the type of the hybrid race which has engaged our attention, and most of the creeds, manners, and customs which we observe in the Ostro-negroes, have been due to the residence of Phenicians among them as merchants and navigators. [*Gazette Médicale de Paris*, 10 Mars, 1849.]

METHOD OF DETERMINING THE QUANTITY OF BLOOD IN THE BODY.

The following *resumé* of some experiments, made by Dr. James Blake, Professor of Anatomy in St. Louis University, U.S., with the view of determining the quantity of blood in the body, is contained in the *Philadelphia Medical Examiner* for August 1849:

The experiments were performed by injecting a weighed quantity of sulphate of alumina into the veins, and analyzing a weighed portion of the blood. As the salt had time to be well mixed with the blood before the animal died, such an analysis would enable us to determine the whole quantity of blood, with which the salt had been mixed. The only error which might arise, would be from a portion of the salt having combined with some of the tissues, or having been rapidly excreted; and this would only affect the result in one direction, viz., in furnishing a greater quantity of blood than really exists.

The results of my experiments would lead to the conclusion, that no such source of error exists; as I find, by this method, that the weight of blood, in the body of a dog, does not amount to more than about one-eighth or one-ninth part of the weight of the animal,—an estimate much lower than that which is generally received as the quantity of blood in an animal. That this, however, is nearer the truth, is probable, from a consideration of the velocity of the circulation and the capacity of the heart; as, on the generally received opinion of the quantity of the blood, it is difficult to imagine how it can circulate so rapidly.

PRACTICE OF MEDICINE AND PATHOLOGY.

DR. FLIESS ON THE PARALYSIS WHICH ATTENDS DENTITION

Dr. Fliess, of Neusalz, has published, in the *Journal für Kinderkrankheiten*, for July and August 1849, the following memoir on the Paralysis which sometimes occurs in children during dentition.

The extraordinary progress which has been made in neuro-pathology, by the labours of English, French, and German physiologists, has only lately caused especial attention to be directed to the paralytic affections, with which young children are attacked. These affections are not unfrequent, but have been long known. By some, they have been mistaken for rheumatism, even though the child complained of no pain; while others have treated them as the effects of a blow or contusion. And we meet with cases, in which sudden paralysis of a limb has been even considered as a sign of rudeness or naughtiness, just as the nocturnal enuresis of children was until a short time ago; for which children used almost always to be chastised with rods, or in some other way, and of which we have only lately become convinced, that it depends on a paralysis of the muscles which close the bladder, or rather on an excessive excito-motor activity of those which expel the urine.

In using here the term Paralysis of Dentition *(Dentalparalysen)*, we would have no other paralysis to be understood, than that which arises from dentition. We intend first to describe the mode of attack of these paralytic affections, and then to endeavour to point out their cause.

Paralysis is much less frequent during the first, than during the second dentition; at least, we have not had an opportunity of observing its occurrence in the first dentition. It is possible that, as children at this time have not yet the full use of their limbs, the affection may more readily escape notice than during the second dentition, when the children can run about, and employ their limbs in performing various actions. We believe it, however, to be well established, that convulsions are much more frequent than Paralysis during the first dentition; and that, in the second, the ratio is changed, or, a least, Paralysis is as frequent as convulsions. We take this opportunity of remarking, that the older the individual is, the less frequently do convulsions supervene on dentition; while paralytic affections, and, at a later period, especially during the development of the posterior molars, neuralgia, are much more frequent. We shall hereafter have occasion to make use of these facts.

The attacks of Paralysis of Dentition are almost always sudden. A child is cheerful, takes exercise, and plays as usual, has a good appetite, and goes to bed in the evening apparently quite vigorous. At first, perhaps, it sleeps very quietly; but it soon throws itself about in a restless manner, groans and screams out in its sleep, grinds with its teeth, is thirsty, has some heat of head, and is rather feverish towards morning. On the next day, when perfectly awake, it is unable to use one of its arms, or, in rare cases, an arm and a leg. If the arm alone be paralysed, it hangs down; it is indeed warm, but, in consequence of the gravitation of the blood in the limbs, the joints of the hand and the fingers are blue-red and swollen. The child cannot move the arm; sensibility is either entirely lost, or is very obtuse; and the excito-motory power can but little, if at all, be excited by strong stimulation. If a medical man be summoned, who does not think of paralysis from dentition, or knows nothing about it, he does not know how to reconcile the sudden attack of paralysis with the otherwise apparently healthy state of the child, which, as has been said, has but little fever, and complains of no pain whatever. He gives it as his opinion, that the child has probably laid on the arm during the night, and pressed on the nerve; and he leads the parents to hope that, in a day or two, the effect will spontaneously be removed, just as, in a limb benumbed or asleep through pressure, the

removal of the pressure is followed by a return of its power. But when, after some days, this result does not follow, but the limb remains paralysed, and the parents become more anxious, the medical attendant is puzzled; he suspects that something of more importance is at the bottom, and he prescribes accordingly. But what does he order? Friction with opodeldoc, camphorated spirit, etc.; and then, perhaps, imagining that there is some deposit, he goes on to order friction with iodine ointment, mercurial ointment, embrocations, etc. We have seen a case, in which the rotatory electromagnetic apparatus was diligently used; nevertheless, the arm remained paralytic, and at last became atrophied. In another case, the medical attendant could not be divested of the idea, that there was a subluxation: he pulled the child's arm about, until, having had his attention called, by a colleague, to the utter loss of power in the limb, and to the great impairment of sensation, he was convinced of the existence of Paralysis.

The paralysed arm usually hangs down as if dead; and if the child at last complain of pain, it is from dragging of the muscles of the shoulder. The Paralysis sometimes extends to the leg of the same side; the child is then unable to move it, and the sensation is lost, or at least impaired. More rarely, one arm and both legs, or both arms, without the legs, are affected.

The duration of the Paralysis is very uncertain; in many cases, it lasts from a fortnight to three weeks, in others many months, and even, in some, many years, and then becomes incurable. Convulsions not unfrequently precede or occasionally accompany the Paralysis, without any cause, or from a very slight one. If the child be in a passion or annoyed about any thing, the paralysed limb sometimes become convulsed, and performs various movements which the child has not power to restrain. These convulsive movements are also produced by the use of electric shocks; or evident vibrations of the muscles manifest themselves, on the application of a continued electric current by means of the rotatory apparatus. The cases which we have observed, were not preceded by convulsions; but several colleagues have observed their occasional occurrence. The termination is not unfrequently favourable, under judicious treatment; the Paralysis passes off gradually, and at last entirely ceases, with a pricking or stinging sensation, or a feeling of formication. But not unfrequently the Paralysis is obstinate; it resists the ordinary remedies; and other symptoms, indicating an affection of the spinal cord and brain, appear. The child is attacked with dyspnœa, palpitation, twitchings of the muscles of the eyes; it begins to squint, becomes dull, falls into a comatose state, and dies. The Paralysis may become chronic; there are then no obvious indications of affection of the spinal cord or brain, but the affected limb remains paralysed, and ultimately becomes atrophied; the individual may be, in other respects, in the most flourishing health, even active and strong. Cases have been sometimes met with, in which individuals, of muscular and powerful build, have had an arm paralytic and arrested in development: and, when asked as to the origin of the Paralysis, they can give no other answer, than that they have had it from childhood, and that a cold, negligent treatment by a physician, a fall, a blow, or whatever they think must be assigned, must have been the cause.

There are, unfortunately, but few autopsies recorded, which can give an explanation of this form of Paralysis. This perhaps depends on the circumstance that the affection is seldom fatal; at most, the opportunity is afforded in chronic affections of this kind, when death has resulted from the supervention of some disease, or from an affection of the spinal cord or brain. But then the appearances presented are rather to be considered as results of the disease, which has more lately supervened; at least, it is then difficult to distinguish the primary from the secondary lesions in the brain or spinal cord.

In one case only, we have had an opportunity of making a post-mortem examination of a boy, who, while suffering from recent Paralysis of one arm,

was killed by being thrown from a carriage. This is also the case which first drew our attention to the form of Paralysis under consideration.

Case. Rudolph Meyer, the son of a tobacconist of this place, was, at birth, a strong well-made child. He was nursed by his mother, who was perfectly healthy; and, at the end of the tenth month, he was weaned. The first dentition was easy, being attended only with slight indisposition, which made him rather lean. He soon recovered, and was apparently healthy up to five years of age. During this time, he had hooping-cough, which went through its usual course and somewhat weakened him; but when it was ended, his health was perfectly re-established. At the end of his fifth year, he was frequently troubled with loaded tongue, some fever, heat of head, and flushed cheeks; these symptoms soon yielded to the employment of mild purgatives. From time to time he had, for a week at a time, restless nights; he cried out in his sleep, ground his teeth, got up as if to walk in his sleep, and was, although apparently well, very tired in the morning. One morning, on awaking after such a restless night, he had complete Paralysis of the left arm. This arm hung loosely by his side; the hand was very red, and the joints somewhat swollen. The child could not perform any movement with the limb; if it were raised, it was as heavy as the arm of a dead person, and fell again as soon as it was let alone. The warmth of this arm did not differ from that of the other. It felt a little colder; but the thermometer indicated no difference of temperature. The pulse in the left arm was somewhat weaker than in the right; but there was no difference in frequency. The boy did not feel when the arm was pinched, or pricked with a needle. This loss of sensation was more obvious on the extensor than on the flexor surface of the arm; it was least on the radial side. Here, as far as could be gathered from his account, the boy had an obscure perception of the above-named irritants; and, when he slept, the arm was slightly convulsed, when irritated on the radial side. In other respects, the boy complained of no pain; he had some cough, was cheerful, played about, and scarcely troubled himself about his arm. A great variety of remedies were employed. At first, the cause of the Paralysis could not be understood; an examination of the arm, shoulder, and spinal column shewed nothing. An examination of the mouth made it probable that the Paralysis was connected with dentition: the anterior milk molars were found lying half decayed in the gums, and near and between them were the edges of the permanent molars, in a row in the gums. We resolved to have all the remains of the teeth extracted next day by a dentist, so as to make room for the new teeth, But, on the same day, the boy met with an accident which deprived him of life. Having been taken by his parents to see a relation in the country, he was thrown on his head from the carriage, and died towards the evening.

A careful *post-mortem* examination was made. There was a considerable fracture of the skull, and also injury of the brain, which was the immediate cause of death. But the most interesting point, was the state of the upper part of the spinal cord. This shewed, in the vicinity of the roots of the brachial nerves, a very remarkable degree of vascularity: the membranes were here reddened, and the whole circumference seemed congested; the veins at least were here fuller, and more prominent, on the left side than on the right. There was no true organic alteration to be observed, either in the spinal cord, or in the roots of the nerves, or in the brachial nerves, so far as they could be followed. On tracing the blood-vessels, it was found that the turgescence of the veins on the left side extended on the shoulder and neck, as far as the face, where all the veins were fuller and more prominent than on the right side. The veins in the neck and submaxillary region were remarkably prominent. There appeared to be no doubt, that dentition had produced this state of the veins; and moreover, that this congestion, having

extended to the spinal cord, had probably produced pressure on the roots of the brachial nerves, and thus induced paralysis of the arm.

This autopsy fully confirms Dr. Marshall Hall's views of the origin of Paralysis; and, although we have no other foundation than this single case, we may here lay down certain rules for treatment, leaving it to subsequent researches to determine whether they are perfectly correct. The rules, which we deduce from our observations, are the following.

1. When a child, during the first or second dentition, is suddenly seized with Paralysis of one arm, or of the whole side of the body, or is affected in only a part of the same, without any obvious external cause, this is to be considered as a *Paralysis from Dentition.*

2. An accurate examination of the mouth will confirm the diagnosis; for the teeth will be found firmly compressed within the gums. Generally the molar teeth are at fault; much more seldom the incisors; at least in those cases, which we have found recorded by various writers, where the situation of the teeth has been given, the molars have almost always been mentioned as in progress of escaping from the gums.

3. The consequence of this dental irritation is obviously an increased sanguineous congestion. In some children, this may extend to the brain, and thus produce convulsions or some cerebral affection; in others, however, the congestion is limited, for some unknown reason, to the external veins, and extends to those which are between the muscles, and even to the vertebral veins and their minutest branches, so that the roots of the brachial nerves are compressed. Hence arises paralysis, which is generally confined to that side where the dental irritation has given rise to congestion.

4. By obviating the venous plethora, the pressure on the roots of the nerves, and consequently the paralysis, is prevented. But if the congestion be intense and permanent, the pressure may produce partial atrophy of the roots of the nerves, and consequent permanent and incurable paralysis.

5. The application of stimulants to the paralysed limbs, or even the use of electricity, can produce no effect. Repeated cupping in the neighbourhood of the origins of the nerves, scarification of the gums, wrapping the paralysed limb in flannel, mild purgatives,—can alone produce any result.

EPILEPSY AND CHOREA TREATED BY PRUSSIATE OF IRON.

M. Faivre d'Esnans, surgeon to the Hospital Baume-les-Dames, has addressed the following communication to the *Journal de Médecine et de Chirurgie pratiques* for November 1849.

I have just read with much interest the article in this Journal, in which M. Molas speaks of the treatment of Chorea by arseniate of soda. I do not deny the efficacy of this medicine; but I may be permitted to offer some remarks, which seem to prove, that another substance will produce the same effect, if not so rapidly, at least as certainly.

Chorea. Case i. 1829. Mademoiselle Clotilda L., of Baume, aged 16, presented all the symptoms of Chorea. The catamenia appeared a year before, and had not been suppressed; nevertheless, this young girl, of a nervous temperament, was pale and lean; and, for a week, she had distressed her parents by her grimaces. The pupils were dilated. I at first thought she was suffering from worms, and ordered an anthelmintic powder, with essential oil of tansy. Two or three lumbrici were evacuated, but the Chorea continued. I then administered the following pills. Hydrocyanate of iron (Prussian blue) gr. i.; extract of valerian gr. xxxij. M. To be divided into 24 pills, of which three were to be taken in the day, at intervals of six hours, followed by a draught of infusion of valerian. After this treatment had been continued some days, the Chorea entirely disappeared, without a return.

Case ii. 1832. Melania R., of Mamirolle, aged 9 years, was brought to me

by her mother, who described her as labouring under symptoms which I recognized as those of Chorea. I ordered a glass of infusion of fern every morning, with two of the pills, as above prescribed, daily. In eight days, the little patient was brought to me perfectly cured.

Case III. 1839. Mademoiselle Julia F., of Baume, aged 13 ; had not yet menstruated. She had suddenly increased considerably in height, her stature being four feet six inches. She was pale and weak, and presented the symptoms of Chorea. I placed her under similar treatment, and she completely recovered in five days.

Case IV. 1843. The same success attended in the case of a young girl of the Haute Montagne, whose name I do not know. She had been ill for two months at least, with an intense degree of Chorea. Her parents had consulted all the good women of the neighbourhood and the Swiss sorcerers, who regarded her as possessed by a devil. The prussiate of iron produced its effect at the end of eight days.

Epilepsy. Case I. In despair of success, I administered the medicine to an old epileptic patient, who had been a long time in the hospital at Baume. All imaginable remedies had been tried ; but they did not prevent the recurrence of epileptic attacks, four or five times in the day. The prussiate of iron, given in doses of four grains daily, at first increased the intervals between the attacks, and at last effected their entire removal. It is now five years since this patient left the hospital ; and he has had no subsequent attacks.

Case II. 1845. Amedeus Laisné, of the hospital at Grosbois, aged 19 years, of nervous temperament, tall, pale, was attacked with Epilepsy in 1845. The prussiate of iron, in ten days, freed him from his frequent attacks. He had a relapse at the end of six weeks, but a course of thirty pills completely cured him.

Case III. 1849. Eulalia B., daughter of a wood-cutter in the forest of Voillans, in consequence of a severe fright last spring, was attacked with Epilepsy. I visited her in her miserable hut, which was open to all the winds, in the month of August. The patient was aged 22, large, strong, of a sanguineous temperament. I commenced the treatment by ordering mild infusion of balm, as a common drink. When the catamenia had ceased, I gave Prussian blue and infusion of valerian ; the attacks ceased on the tenth day. I have since had to treat a relapse of *three attacks*, which appeared at the end of fifteen days ; but I hope the disease will not return.

I have been led to employ Prussiate of Iron in Chorea and Epilepsy, by observing, in the military hospital at Strasbourg, that M. Fourdes used it in intermittent fevers. Considering that Chorea and Epilepsy were diseases connected with the spinal cord, I thought that the same medicine might be beneficial in them.

RHEUMATIC DISEASE OF THE EAR.

Mr. Harvey read an interesting and highly practical paper on this subject, at the Medical Society of London, on the 24th September. The following abstract we reprint from the *Lancet* of October 10, 1849 :

Mr. Harvey's attention was first directed to the subject, by observing the effect of rheumatic inflammation on the tissue of the eye, and from noticing, in many cases of ear-disease that came under his care, the presence of articular rheumatism, which influenced, either directly or indirectly, the ear-disease, the relief of one, for instance, being followed immediately by aggravation of the other, etc. Believing, from observation, that many such cases were made worse, and even irremediable, by mistaking the cause of the disease, and by the application of stimulating remedies, he determined on investigating the subject. The result has been, that in a great number of cases he has been able to trace the connexion of the ear affection, with rheumatism of the system generally. In the eye, the secondary attack has been usually found to come on, after the system has been well saturated by the poison of

the disease; but the ear may become affected early, the parts first implicated, as in the eye, being the fibrous tissues, and, subsequently, the nervous expansions. The disease exhibited itself under two forms—the acute or destructive, and the chronic or insidious; both, when neglected, tended to impair the sense of hearing; and the former, to the entire destruction of the organ. The acute form generally attacked males, and was connected with articular rheumatism; the chronic was more frequent in females, and was associated with rheumatism of the muscular system. The symptoms of the acute form of the disease, to which the paper was restricted, are, that the attacks are paroxysmal, usually following a seizure of articular rheumatism, tinnitus aurium, resembling the pumping of a steam-engine or forge-bellows, and generally a benumbed sensation over the temporal and mastoid regions. This was the part chiefly implicated in the disease, which, if not speedily relieved, ended in the exfoliation of the bone. Some cases were detailed by Mr. Harvey: in one, the patient was a strong, robust man, in whom the attack supervened on a severe rheumatic affection of the joints, which had been treated actively. On the entire subsidence of the joint-affection, the left ear became the subject of severe pain; there was a benumbed sensation over the temporal and mastoid processes, accompanied with a heavy, deep tinnitus. There was considerable tenderness over that portion of the head. The meatus was much swollen, in consequence of the application of hot and stimulating remedies. He had difficulty in swallowing; the left tonsil was much enlarged. He was cupped and leeched over the mastoid process, and placed under the influence of mercury with colchicum. This was pursued for ten days; the tympanum could now be seen; it was of a brownish-red colour, and had lost its transparency. The pain had diminished in intensity, but the tinnitus continued; he had occasional flying pains about the joints. Pain and tenderness continued over the mastoid process; and, though no fluctuation could be detected, an incision was made over the part down to the bone. Relief followed: he slept better. Colchicum, with quinine, was given, and the patient recovered, though for twelve months his hearing was somewhat affected. The second case was of a similar character; but owing to the obstinacy of the patient, a female, who refused to allow of any incision being made over the mastoid process, the structure of the ear was destroyed, and the bone exfoliated, notwithstanding that active and judicious means were used to prevent it. The third case was one associated with cardiac inflammation, which ended fatally; the ear-disease, under the treatment pursued in the first case, was but little benefited. In concluding his paper, the author lays great stress on the necessity of the incision over the seat of pain, and considers that, in the second case, that proceeding, if adopted, would have been as beneficial as in the first. In some remarks on colchicum, he says:—'It appears to me, that colchicum may act chemically, by producing some change in the urinary and alvine secretions, both of which it tends to increase in quantity and alter in quality; and secondly, it acts particularly upon the nervous system. If given in large doses, it should be carefully watched as to its effects. It should not be given, in a weakened constitution, without either a tonic or an opiate, and it is better to have the bowels freely acted upon at first. I have found it extremely beneficial to continue its use internally for a lengthened period, in small and repeated doses, in chronic affections of the ear presumed to have arisen from rheumatism. I have found it by no means beneficial when it produces nausea, vomiting, or purging, and more particularly beneficial when the skin secretes freely. The preparations I place most reliance upon, are the wine of the seeds internally, and the acetous extract, combined with spermaceti, as an external application.' He usually administered the colchicum wine in small doses, such as five or six drops, at first, in chronic cases, continuing the remedy for a long period. He conjoined it with a bitter infusion. In acute cases, he gave half a grain of the acetous extract, with two grains of calomel, three times a day, till ptyalism was produced.

SURGERY.

LOCAL TREATMENT OF ERYSIPELAS BY NITRATE OF SILVER, AND BY COMPOUND TINCTURE OF IODINE.

The following is interesting: "Some of our best authorities claim great relief from the use of cold applications, while others favour the employment of hot and emollient fomentations. Hog's lard, and simple molasses, have their advocates; buckwheat and rye meal, mercurial ointment, oxide of zinc, creasote, nitrate of silver, tincture of iodine, and other agents of different names and properties, are pressed into service, with equal claims of restorative power. So far as the experience and observation of your present reporters will justify the expression of their opinion, there are no substances in the whole range of the materia medica of equal value in this complaint, with the nitrate of silver and the compound tincture of iodine. Probably the weight of recorded testimony is on the side of the former agent; although the latter has been fairly tried, and proved, by ample experience, to be equally serviceable.

"Whether erysipelas requires any local treatment at all, is a question, in the minds of many judicious and skilful practitioners, that is yet unsettled. The disease is asserted to be dependent upon a morbid condition of the blood; and the constitutional injury arising from this change, it is said, can only be repaired by means that are calculated to improve the vital fluid, or to secure the abstraction of a portion of it from the body; but, whatever may be the pathological condition of the blood, experience proves, most conclusively, that sedative external remedies exercise a controlling power over the cuticular inflammation, which cannot be exerted without them.

"The cutaneous disease is occasionally the only morbid change which is exhibited by post-mortem examinations; and there is much reason to believe that the property of contagion, which belongs to the malady, resides in the inflamed and often abraded surface. When the inflammation is seen involving the face and head, rapidly insinuating itself towards the inlets of the brain, with sacs containing purulent matter presenting themselves upon the inflamed surface, and threatening to attack the sensorium, the question is one of the most solemn import, whether we are justifiable in not employing some direct means for its arrest. To cure disease, is our high calling. If we cannot cure, we are bound to guard, as far as we can, those portions of the citadel, that are not the seat of disorder, from being overtaken and destroyed. The simultaneous occurrence of erysipelas and puerperal peritonitis, has often been a subject of interesting and useful inquiry among physicians. There has been no puerperal epidemic disease within the knowledge of your committee; but, as evidence of there being great danger of communicating to parturient females the contagious virus of erysipelas, it may be stated that while recently visiting a patient with this disease, and engaged in making applications to the inflamed part, the writer was called to wait upon a female in labour. Under the apprehension that there might be some danger of communicating the disease, the examinations per vaginam were as few and as rapid as circumstances would justify; but the case being very tedious, and requiring the employment of forceps, the hands were necessarily brought into contact with the mucous coat of the vagina; and, though they had been thoroughly washed, the patient barely escaped with her life, from an attack of puerperal fever, attended with an offensive discharge from the uterus, and an acrid secretion from the vaginal walls. The infant, at the age of about two weeks, was seized with a severe attack of erysipelas, invading the head and shoulders, and extending down the back. The integument became extremely indurated, the skin assumed a dark, livid hue, and the little sufferer died on the third day, in a state of coma. A similar case occurred not long

since, in the practice of another member of your committee, and the infant died with erysipelas about the nates, between the third and fourth week." [*Report of the Standing Committee for the Western District of the New Jersey Medical Society*, Dr. J. PARRISH, Chairman; in *the New Jersey Medical Reporter*, for July, 1849.]

NITRATE OF SILVER AS A LOCAL APPLICATION IN ERYSIPELAS.

The efficacy of the application of the Nitrate of Silver in limiting the spread of Erysipelas is undoubted. The very general voice of the profession says so: and in our own experience the practice has rarely failed to produce this result to a greater or less extent. Still, accidents may occur. DR. JOHN C. HALL, of Sheffield, states, that "Sir Benjamin Brodie never uses the Nitrate of Silver in Erysipelas, he considers it 'dangerous'"; and "knows of two cases in which there was reason to believe that the determination of the inflammation to internal organs, and the death of the patient, was the consequence of the application of the Nitrate of Silver to a local surface affected with Erysipelas". As the disease is constitutional, and not merely local, the repression of the outward inflammation may often be most improper. We refer to the *Lancet* of August 18th, and September 8th, 1849, for a very full and instructive digest of the opinions of the most eminent surgical authorities on this subject, by Dr. John C. Hall.

EXCISION OF THE HEAD OF THE FEMUR. DR. COTTON'S CASE.

At pages 195 and 774 of the volume of this JOURNAL for 1849, we gave some account of the controversy between Messrs. Syme, Fergusson, H. Smith, and other surgeons, on the subject of Excision of the Head of the Femur. The following case, which is recorded in the *Provincial Medical and Surgical Journal* for December 12, as having occurred in the practice of Dr. C. COTTON, Surgeon to the West Norfolk and Lynn Hospital, promises to be successful, though the patient still remains under treatment. The reporter of the case observes, that "although, in its present stage, no confident prediction of permanent benefit can be hazarded, nevertheless, an auspicious commencement, and upwards of seven weeks progressive amelioration, create a hope that the constitutionally-depraved condition of the system may in a degree expend itself through the outlet still existing at the hip, and that the skin ulcerations, resulting from long pressure, may be obviated, by the further favourable progress of the case allowing of a more frequent change of position. But whatever the termination—*temporarily amended health only*, protracted disease, or death from phthisis—it must be conceded that the operation, severe and formidable as it may appear, has, at least in this instance, given a chance of life, and afforded marked comfort and relief to a hopelessly-deformed girl, who, harassed by pain, and worn down by slow and wasting hectic, must, had she survived, have remained in a crippled and pitiable condition to the end of her life."

CASE. Jessie Bullen, aged 12 years, was admitted into hospital September 16th, 1849, with hopeless disease of the right hip, said to have commenced nine months ago. She is a pale, delicate child, of scrofulous habit. She lies on her back, inclined to the left side; the limbs are drawn up and contracted; and there is observed a large open sore over the right hip, which discharges thin, curdy, purulent matter. The least movement causes agonizing pain. Both ankles are excoriated and ulcerated; and there is a painful bed-sore over the ribs, near the spine, on the right side. The circulation is hurried, the appetite capricious, and the stomach ticklish, but there is almost an entire freedom from cough. Ordered to have cod-liver oil judiciously administered, and any agreeable nutritious diet. Apply linseed poultice twice a-day to the hip.

28*th*. Improved in appearance, and has gained flesh. The oil has been

taken regularly, except an occasional discontinuance, owing to the stomach being deranged.

October 6th. Renewed hectic excitement, pain, and exhaustion; loss of appetite; partial sweating, and restlessness. A large circular sore over the right hip disclosed the great trochanter, covered with florid granulations, prominently protruding; and, on passing the finger through the posterior part of the opening, the head of the femur was easily reached, and found dislocated on the ilium, lying in the centre of a large abscess; the limb was drawn up and shortened; the knee rigidly flexed and immoveable, and fixed a little above and on the inner side of the opposite knee, which was also stiffly contracted, and drawn upwards and inwards. As it was evident the patient must sink, unless some operative proceeding was resorted to, and as chloroform inhalation promised to obviate the pain and tediousness of the operation, it was determined, in consultation, to perform resection of the head of the bone; there existing no positive indications of organic mischief, or of the disease extending to the pelvis, or beyond the upper part of the femur.

12th. The patient having been rendered unconscious by the administration of chloroform, Dr. Cotton proceeded to make an incision through the hypertrophied and ulcerated tissues, about five inches in length, commencing above the head of the bone, and terminating below the protruding trochanter. This was afterwards slightly prolonged, to facilitate the sawing of the bone. The soft parts were then cautiously dissected away and separated, and the head of the femur made to project through the wound, by forcibly twisting the limb inwards. The portion of bone to be removed was then grasped firmly in the operator's left hand, and a section made by a common saw, in an oblique direction, through the great trochanter and neck of the femur. The bevelled end of the bone being in a diseased condition, the saw was again immediately applied, and a slice about a third of an inch in thickness removed, the section apparently terminating just *above* the lesser trochanter. The joint-cavity, on examination, was found filled up with a mass of soft granulating deposit. An ineffectual attempt, owing to the friable state of the tissues, was made to secure one vessel, which at first spouted out rather freely; but no hæmorrhage of importance occurred. On the removal of the patient to bed, the limb, now set free in the hip, was brought into as good a position as the contracted knee would admit, and steadied by means of a long splint, on the outside. Tenotomy of the hamstring tendons was left for a future proceeding, should the case do well. The chloroform inhalation answered admirably; some hysterical sobbings followed its withdrawal, and the girl complained of much pain in the right knee. Ordered Liq. Opii Sed. (Battlei) m. xv., ex Syrup. statim. Milk and toast-water diet.

13th. Became quiet and composed towards the evening, but was restless during the night, and a slight hæmorrhage took place from the wound. Has dozed much this morning, but still complains of pain at the knee, and of being cramped at the ankle. This was relieved on loosening the bandage. A slight sanguineous oozing continuing, the wound was dressed with lint moistened with a solution of matico; and the following draught was prescribed to meet irritative feverishness: ℞. Liquoris Ammoniæ Acetatis 3j; Tincturæ Hyoscyami m.x.; Vini Ipecacuanhæ m. v.; Syrupi Papaveris 3ss.; Aquæ 3x. Fiat. haustus tertiâ vel quartâ quâque horâ sumendus.

18th. Though composed, and free from pain, there is slight fever, and a disposition to diarrhœa. Has required a dose of astringent mixture. Bed very foul and offensive. The thigh appears shortened, and the end of the femur may be seen projecting within the wound, owing to the unavoidable cocked-up and contracted condition of the knee. The complete influence of chloroform having been induced, the patient was moved to an adjoining bed, and placed upon a sheet of gutta percha web. Dr. Cotton then, grasping

the thigh with the left hand, and the leg with the right, gradually but forcibly *straightened the limb. During the extension, the integuments of the ham were torn across, and the lacerated edges drawn a finger's-breadth apart.*[1] (Subcutaneous section of the tendons was dispensed with, as it was evident that the whole of the tissues, from long faulty position, contributed to keep up the contracted state of the knee.) A straight Liston's splint, reaching from the axilla to beyond the foot, and previously shaped so as to admit of easy access to the hip, was now applied, and secured by a bandage to the limb, and further steadied by a wide web belt carried round the body. All this was accomplished with but little apparent discomfort to the patient, who only whiningly complained of the knee, on recovering from the effects of the chloroform. Water dressing. A well was formed to receive the discharge, by placing a heavy weight on the outside of the splint, near to the wound.

19*th.* Easy and comfortable, and pleased with the straightness of the limb. Hopes in time to overcome the contraction of the other knee herself. The end of the femur is well imbedded in the soft parts, and cannot now be seen in the wound.

The subsequent reports were altogether favourable; she had tonic medicine, nourishing diet, and cod-liver oil for a week.

Nov. 19*th.* The improvement in general health has continued; she has no sweats at night, nor cough; less running of the pulse, and the cheeks flush only when the hip is dressed; the sore in the ham, from the integuments yielding, is slowly healing. Fearing an operation upon the left knee, she, assisted by the nurse, has very much overcome the contracted condition of the limb.

28*th.* Better; limb easy; very good appetite; thinks she will soon sit up in bed; the wound, at the seat of the operation, does not now equal in size that of the sore through which the trochanter originally protruded; the edges are rounded, and skinned over; the base is hollowed, and coated with dirty yellow shreddy lymph; the discharge has much diminished. Dress with resin ointment.

Dec. 3*rd.* Can move herself in bed, and admits of being raised for a short period to a semi-upright posture with but little inconvenience; hip-wound stationary; the draining slightly increased from the ointment; bed-sore and other ulcerations healing; the limb lies extended upon a pillow, loosely supported by foot-splints; the left knee still remains much contracted. She still remains under treatment.

The portions of bone removed measured, (by a tape drawn from the point of insertion of the round ligament to the upper edge of the section,) over the head, curve of the neck, and the great trochanter, four inches and three-quarters; and from similar points below, two inches and a half. The head of the bone was denuded of cartilage; and a carious cavity, admitting the end of the finger, existed at its under surface; the under part of the neck was also softened and damaged by caries. The trochanter and remaining shell of the bone retained a seemingly healthy firmness. The cancellous structure was filled with pale yellow lardaceous pus.

VULCANISED INDIA-RUBBER IN SURGERY.

Vulcanised Caoutchouc has now become very common in the arts, and is likewise used in surgery. A systematic and extensive application of this substance has lately been made at Paris, for surgical purposes; and Dr. Gariel presented to the Surgical Society of that capital, on the 19th of September last, a series of apparatuses, made of vulcanised caoutchouc, for

[1] Would not gradual and frequently-repeated extension, though the object were longer in being accomplished, have been equally efficacious, and less productive of suffering to the patient?

traction, compression, confinement, dilatation, suction, &c. Dr. Gariel prepares the substance by dipping the caoutchouc into a saline bath, and thereby renders the India-rubber perfectly and regularly elastic. gives to it an immense force of cohesion, prevents fatty bodies or the most energetic chemical agents (nitrate of silver, nitric, sulphuric, and muriaric acids, &c.) from acting upon it, and causes it to preserve its elasticity at extreme temperatures. It should be remembered, that ordinary caoutchouc possesses none of the above-named properties. One peculiarity pervades the numerous kinds of apparatuses which Dr. Gariel laid before the Society ; and that is, a very ingeniously-contrived mode of insufflating various tubes, when placed upon, or introduced into, the body, thus giving them a greater diameter, and increasing their power of pressure at will. We may mention a tube used for arresting epistaxis, which will plug the posterior nares on being insufflated. Pessaries, and a great number of variously-shaped cushions, intended for many different surgical uses, are also made to change their sizes at will, by filling them more or less with air. The Society expressed its highest approval of these applications of Vulcanized Caoutchouc. [*Lancet*, 1st Dec. 1849.]

URETHROTOMY FOR THE CURE OF STRICTURE.

In connexion with the extracts which we have given from Mr. Syme's work, at p. 35, the following passages, abridged from our weekly cotemporaries, will be read with interest.

Mr. Fergusson, on the 1st December 1849, operated upon a patient suffering from a bad Stricture of the urethra, complicated with perinæal and scrotal fistulæ. He had laboured under Stricture for many years ; had neglected himself ; fistulæ had formed, through which nearly all the urine came away. He had not had a catheter passed for a long time previous to his coming into the hospital, and, on admission, Mr. Fergusson discovered that he had a cartilaginous Stricture at the bulb, through which it was impossible to pass any instrument.

The patient was placed fully under the influence of chloroform, and a small catheter was attempted to be introduced, but it was found useless to endeavour to pass it further than the obstruction. He was then tied up in the position for lithotomy; and, the catheter being retained, a free incision was made in the middle of the perinæum, through the hardened tissues, until the point of the knife impinged upon the catheter. The urethra was then opened, and the Stricture was freely divided its whole length towards the bladder. The catheter was then changed for a larger one, which, after another incision or two, was carried along into the bladder, and there retained. There was not so much difficulty as usual. This operation (in those cases which really require it) is one of the most difficult in surgery; nevertheless, there is very little hazard, when it is performed in the cautious and skilful manner practised by Mr. Fergusson. This gentleman promised the pupils he would make it the subject of a Clinical Lecture. [*Medical Times*, 8th December 1849.]

An operation of a somewhat similar character was also performed on the 8th December, by Mr. Fergusson.

The patient had suffered, in the most literal sense of the word, from a bad Stricture of the urethra for about twelve years, and he had been under the care of Mr. Fergusson at a previous period. The Stricture was, at that time, exceedingly irritable and undilatable ; and, although a moderate-sized catheter could be passed through it, so little relief was obtained, and there was so great a tendency in the urethra to contract again, that it was determined to cut him. He was actually brought into the theatre for the purpose of being operated on, at the same time that an operation, of a similar character, was being performed on another patient ; but Sir Philip Cramp-

ton being present, recommended Mr. Fergusson to abstain from the proceeding, and, instead, to put the patient under the influence of chloroform, introduce as large a sized instrument as possible, and keep it in the bladder. In deference to so high an authority, Mr. Fergusson pursued this course of treatment; but, after remaining in the hospital some time, the patient left much in the same state. In the course of six months, he was again admitted; and Mr. Fergusson proposed the division of the Stricture, to which proceeding the patient willingly consented to submit. The operation was done in the following manner: A No. 6 staff, with a groove in its centre, was passed through the Stricture; the knife was then carried through the centre of the perinæum down upon the groove, along which it was slid against the Stricture, until the whole was divided; an elastic catheter was then introduced, and retained.

This operation is similar to one recommended by Professor Syme, only there is this difference: the Edinburgh Professor divides the Stricture from behind forwards, whilst Mr. Fergusson cuts from the urethra towards the bladder. The great principle is the same—namely, *the introduction of a director through the Stricture*, upon which the division is made. The operation in this case was comparatively simple, far different from that performed on the first, where no instrument could be passed, and where the structures of the perinæum were extensively diseased; and Mr. Fergusson, in some sound and practical remarks, forcibly contrasted the two proceedings, and pointed out the cases in which each operation was applicable. [*Medical Times*, 15th December 1849.]

Mr. Quain, of University College Hospital, has also been treating Stricture upon the same principle. The following case we give from the *Medical Times*, of December 15:

Stricture of Urethra—Fistula in Perinæo—Operation. James Graby, aged 54, was admitted September 17, under Mr. Quain, with stricture of urethra, traceable to repeated attacks of gonorrhœa during the last eight years. Retention of urine occurred twice during that period. In 1848 an abscess was formed in the perinæum, after an attempt to pass an instrument along the urethra. This patient is a spare, thin man, with an anxious, careworn countenance. At the junction of the scrotum and the perinæum, and in the median line, is a fistulous opening, with the tissues much thickened and indurated around. The stream of urine is exceedingly small, and there is frequent desire to pass it. With each effort, a few drops escape through the fistula. The introduction of bougies was almost invariably followed by rigors; and the Stricture was not improved by their use, for, though on more than one occasion dilated to some extent, it again quickly returned to the original very narrow state.

November 29. Chloroform having been administered, a full-sized wax bougie was passed down to the Stricture, and marked with reference to the meatus. The smallest lithotomy-staff being found too large to pass through the narrowed part of the urethra, a very slender straight director, with the extremity slightly bent, was introduced along the whole length of the canal without any difficulty. [This instrument was constructed with reference to the present case.] The patient being then put in the position for lithotomy, incisions were made into the urethra through the fistula and the surrounding indurated substance. The depth was very considerable, the tissue cutting like cartilage. After the urethra had been laid open for about half an inch, the director was withdrawn, and a good-sized catheter passed down; but this instrument was arrested beyond the incision in the canal, the whole of the Stricture not having been cut through. The director being now re-introduced, the incision previously made in the urethra was continued backwards. The catheter then slipped in easily.

Mr. Quain stated, that if the fistula and surrounding tumour had been

at the side of the perinæum, the operation would have been a more easy one; for, in that case, the incisions would have been made in the middle line, without regard to the tumour. He added, that he had to perform the operation without a measure of the length of the Stricture. The position of the anterior end of this was determined with a bougie, and that of its posterior might have been sufficiently ascertained beforehand, if the fistula admitted a probe to pass into the urethra. But as it was impossible to make a small director penetrate any distance along the fistula, he had to divide the Stricture by two separate incisions.

December 1. Catheter removed, having been retained since the operation without any incovenience.

These reports abundantly testify to the importance of Mr. Syme's operation, and likewise to the fact, that proceedings of a like nature are not neglected by metropolitan surgeons. By referring to p. 1068 of our Number for November, it will be seen that urethrotomy was advocated by Mr. H. Smith, at the Westminster Medical Society, on the 5th of May 1849.

MATERIA MEDICA AND PHARMACY.

MR. NUNNELEY ON ANÆSTHESIA AND ANÆSTHETIC SUBSTANCES.

Mr. Nunneley's valuable paper, in the *Transactions of the Provincial Medical and Surgical Association*, is of too great length to permit our giving more than an outline of its contents. He has been led to make the series of investigations, whose results he has presented to us, by the consideration that the information we possess respecting Anæsthetic agents, "is neither sufficiently extensive, nor of that precise character which is absolutely necessary to enable us to arrive at an accurate and certain conclusion as to their practical value, and the circumstances in which, and under which, they, or any of them, should be employed or not: in fact, hitherto their use has been mainly, if not altogether, empirical,—not founded on any rational basis. The intention of the present inquiry is to assist in affording that information, and to furnish evidence from which such inferences and deductions may be fairly drawn, as shall, if possible, render their practical application as safe and certain as the nature of the case admits." To the particular subjects of inquiry, and the answers which have been furnished by experiment, we shall presently recur.

Chemical Nature of Anæsthetic Substances. These are nearly all compounds of the hypothetical radical ethyle (C_4H_5)—the assumed base of ether; combinations of hydrogen and carbon with oxygen, as an oxide of ethyle—sulphuric ether (C_4H_5O); or combinations of this oxide with an acid, as nitric ether (C_4H_5O, NO_5); or of hydrogen and carbon with chlorine instead of oxygen—chloroform (C_2HCl_3). These bodies are all hydro-carbons; one substance, of somewhat analogous character, has been shown to possess, to some extent, similar properties, in which the carbon is combined with sulphur—the bisulphuret of carbon (CS_2). From reflecting on this circumstance, Mr. Nunneley was led to the supposition, that "where hydrogen and carbon might be supposed to constitute an hypothetical radical or base, whether as ethyle, acetyle, methyle, or some other modification, they might be combined with another body; which body might be replaced by another element, the properties of the compound to a great extent remaining." Thus ether, as a base, might be combined with various acids, capable of being substituted for each other, the general character of an ether fluid remaining; and the chlorine of chloroform might be again replaced by iodine, nitrogen, sulphur, or some other element, the new compound having similar properties to the old. Hydrocyanic acid affords some confirmation of this view. "This", says Mr. Nunneley, "is in some degree an extension of the beautiful theory of substitutions now so generally admitted among chemists,

applying the same doctrine to the therapeutic and physiological properties of isomorphous bodies, as has long been known to prevail in their chemical qualities."

The substances tried, and of which the effects are recorded, are the following:

Chloroform	Olefiant gas
Alcohol	Light carburetted hydrogen
Spiritus vini of the Pharmacopœia	Coal gas
Sulphuric ether	Benzole
Spiritus ætheris nitrici, Ph. L.	Camphor
Nitric ether	Naphtha (three varieties of)
Acetic ether	Oil of turpentine
Chloric ether	Creasote
Chloroform and spirit of wine, mixed	Protoxide of nitrogen
Hydrochloric ether	Hydrocyanic acid
Hydriodic ether	Coneine
Hydrobromic ether	Hydrogen
Dutch oil, or chloride of olefiant gas	Carbonic acid
Oleum æthereum, Ph. L.	Carbonic oxide
Heavy oil of wine	Bisulphuret of carbon
Aldehyde	Sulphuretted hydrogen
Two or more of these mixed together	Bromoform
Iodoform	

The mode of administration has been by—1. Inhalation, in various degrees of concentration, for a limited period. 2. Inhalation for a prolonged period. 3. Internal administration, by the stomach and rectum. 4. Injection into the veins. 5. Limited application to the skin—local action.

The post-mortem appearances are given in each experiment, when death has been occasioned.

Experiments. The animals submitted to experiment were taken from the four classes of the vertebrate division, and some of the invertebrata were also used; but, for several reasons, dogs and cats were principally employed. The variety has been sufficient to shew, that the effect, throughout the animal kingdom, is uniformly of the same kind, and therefore the same in man; and, hence, in applying the practical inferences to him, we are not very liable to be wrong.

The details of 363 experimenis are given; and, from the care which has been taken in recording them, they must form a most valuable contribution to our knowledge of the properties and effects of Anæsthetic agents. To insure accuracy, Mr. Nunneley says, that "in no one case was the record left to memory; in every case, as the experiment proceeded, were the effects written down on the spot."

Effects of the Substances Individually. Having given his experiments in detail, Mr. Nunneley makes some remarks on the effects produced by each substance. From these we can only make a few extracts.

Chloroform. This is one of the most, if not the most, agreeable Anæsthetics with which we are acquainted, and, at the same time, possessed of very considerable power. "It is, for the most part, pretty constant in its action; but I am also bound to add, it is one of those which require more care in administration than most of the others, and, I would venture to say, much more care than has always in practice been exhibited. It is true, that many fatal cases, in which it has been given, are known; but, I am firmly convinced, there are many more fatal cases which have not been reported. Even in those cases which have come to light, all sorts of explanations, and attempts to explain away the true cause of death, have often been attempted, rather than admit the fact of the person having been killed by the Chloroform. This is, perhaps, scarcely to be wondered at; the admission of the fact would be almost like acknowledging being accessory to the death of the patient, which most men naturally shrink from. A careful examination, however, of

the preceding experiments, cannot, I think, but convince any impartial person that, in reality, death in these cases was caused by the Chloroform; either from some abnormal condition or peculiar idiosyncrasy, by which the person was rendered unusually susceptible to its influence; or, as I believe, far more frequently from a want of that experience and care in its administration, which the exhibitor should have possessed and attended to. When I see statements by medical men, that they have 'boldly administered' Chloroform, in quantities of from six drachms to an ounce-and-a-half at a time, without any ill effects, I cannot but congratulate both the patient and the doctor, that the rashness in employing such quantities has been equalled by the carelessness in administering it, so that by far the greater portion of the fluid has been wasted by escaping into the air of the room, rather than passed into the lungs of the inhaler, and thus the carelessness of the administrator has, contrary to what generally occurs, and which he would do well not to risk again, been the means of escaping from the effects of his rashness.

"Two very important practical points, in reference to the administration of Chloroform, appear to be proved by these experiments.

"1st. That the effects produced upon similar animals by like quantities of Chloroform, all circumstances, so far as can be ascertained, being precisely similar, are not identical, the effects being far more considerable in one than in another: even upon the same animal the effects are far more decided at one time, than they are at another." (p. 319.) This is demonstrated by a comparison of the following experiments, among others.

"(Experiment 5.) I applied, by means of a damp, warm sponge, thirty minims of Chloroform to the mouth of an active terrier dog. At first it struggled hard, but in thirty seconds became quiet and breathed deeply, with dilated pupils; the saliva freely dribbling from the mouth. The sponge was retained over the mouth and nose during five minutes, when, the Chloroform being exhausted, it was removed; the dog was not insensible, and when let loose, immediately ran about and rubbed his neck and body very violently. After seven minutes, a second dose of thirty minims was administered, in a precisely similar manner to the first; in two minutes and a quarter, there was neither sensation nor reflex action, but an indication of distress by the noise in breathing; at six minutes, there was panting respiration, with blowing motion of the cheeks; all the other muscles being perfectly motionless and flaccid. The heart could just be perceived, with a quick, fluttering, motion, until nine minutes, after which there was no indication of life." (p. 177).

"(Experiment 7.) A strong, but not very large, rough-haired water-dog, inhaled from a sponge wrung out of water, temperature 120 degrees, seventy minims of Chloroform. He inspired deeply and quickly, so as to inhale it rapidly; he struggled hard at first, but became affected in a minute; never lost sensation nor sensibility. The sponge was removed at five minutes, before which time the whole of the Chloroform was exhausted. The only effect was, that he appeared rather weak on the legs, and rubbed his neck and breast with considerable force upon the floor. In a quarter of an hour, the experiment was repeated; temperature of water, 100 degrees. Did not struggle so much as last time, and breathed steadily and deeply. The sponge was removed at five minutes, the Chloroform being completely exhausted. He was unable to stand or move; no sensation, but reflex action remained; at nine minutes, muscular power returning, as in sensibility; twelve minutes, can now see; eighteen minutes, able to run, but falls every now and then, the muscles being tremulous and weak. In twenty-two minutes afterwards, experiment repeated; struggled very little; not insensible until the expiration of five minutes, when he lay perfectly helpless without sensation, but gradually recovered. In twenty-five minutes afterwards, experiment repeated; in three minutes, respiration became quick and stertorous, then

more feeble ; sponge removed in five minutes, as in the other experiments, the Chloroform being exhausted ; dropped insensible and motionless, except respiring quickly, but feebly, the heart pulsating rapidly ; in fourteen minutes could see, and perceive the indications of a threatened blow, but was unable to move ; at eighteen minutes began to move, and in twenty minutes was able to stand, with the legs very straddling and wide apart. The motions bore a strong resemblance to those of an animal recovering from prussic acid. For twenty-four hours after, he appeared dull, and not disposed to eat much ; on the following day he made his escape, being perfectly well and active again." (pp. 177-8).

The different effects on the same animal are most unequivocally shewn in the following experiments.

"(Experiment 16.) A full-grown cat inhaled not quite one drachm and a half of Chloroform from a sponge. She immediately struggled hard, and passed urine in a stream of considerable force. In one minute and a half, sensation and reflex action were quite lost ; she lay perfectly still without respiring, but the heart beating rather rapidly, until five minutes, when there was some little respiratory movement, which gradually became very rapid, during which time the pulsations of the heart became excessively quick, amounting to nearly three hundred per minute, as far as could be counted ; at seven minutes, some sensation and reflex action had returned. The sponge was removed from the mouth at ten minutes. She lay across the knee as though asleep, but with motive power gradually returning, and gradually awakening, when she slipped off the knee and sat crouched down, and for awhile she was indisposed to move, but in a short time was quite well again.

"(Experiment 17.) To the same cat as last, two days afterwards, and being perfectly recovered, I gave, by inhalation, in the same manner as before, forty minims of Chloroform. In one minute and a quarter, sensation and reflex action were lost ; she continued to lie still and breathe quickly and slowly until five minutes, when for a minute the respiration became rather spasmodic, after which it ceased. The heart could just be felt moving until eight minutes, after which there was no indication of life." (p. 183.)

The intensity of the effect appears much rather to depend upon the quantity of Chloroform inhaled in a given time—the concentration of the vapour, than upon the absolute quantity inspired. A small quantity, suddenly and quickly inhaled, will produce more rapid and decided—and at the same time more dangerous—effects, than a much larger quantity taken more slowly. The following experiments are illustrative of this.

"(Experiment 13. Vapour not concentrated, but inhalation prolonged.) A full-grown, but rather small, cat was put into a covered glass vessel, holding three hundred and seventy-five cubic inches, with one drachm of Chloroform. She immediatly became uneasy and tried to escape, the saliva dribbling freely from her mouth. In half a minute, she became perfectly still, supported against the side of the vessel. There was some convulsive cough. At three minutes, the only motion was that of very feeble, rapid respiration, sixty per minute ; the pupils dilated. At three minutes and a half, respiration had ceased, when the cover of the jar was removed, the cat being apparently dead ; but on being handled, she, for a few times, breathed in a short barking manner. At five minutes, there was neither sensation nor reflex action, the muscles being perfectly flaccid ; but by thrusting the hand beneath the ribs, the heart could be felt very feebly beating at one hundred and twenty per minute. At ten minutes, there was perceived a very faint convulsion, which was immediately followed by rapid twitchings over the whole body; at twelve minutes, on being taken from the vessel and laid upon the floor, she immediately began to cough and respire, and reflex action returned ; the urine and fæces were passed, and shortly afterwards the convulsions were very strong. She now began to swear, and, though unable to crawl or stand, made most violent attempts to bite the floor, and every-

thing put near the mouth, more viciously than I ever saw a cat bite. This continued for ten minutes, during which time she improved so as to be able to crawl about, attacking most furiously everything, so as to render it prudent to get out of her way; even her own tail she apparently mistook for something else, and bit most vigorously. By twenty-six minutes this temper had subsided, and she then as earnestly sought to be caressed and petted. At half an hour she eagerly eat meat, and though weak, could walk about. The next morning she was quite well." (pp. 181-2.)

"(Experiment 14. Vapour more concentrated, but inhalation less prolonged). Same cat as No. 13. Put one drachm of Chloroform upon a damp, warm sponge, at 80 degrees Fahr., and held it over the mouth and nose. For a minute she struggled hard, then became suddenly perfectly still. At one minute and a half, there was neither sensation nor reflex action; at three minutes, there was a little grunting noise, after which not any indication of life. The Chloroform was not nearly exhausted."

"(Experiment 15.) A very large powerful cat had one drachm of Chloroform given upon a warm damp sponge, at a temperature of 70 degrees Fahr. She struggled very hard indeed against it for one minute and a half, when she became still, and sensation appeared to be lost; but reflex action was not completely so until ten minutes. She continued to breathe feebly until four minutes, and the heart slightly to pulsate until five minutes; after which there was no sign of life. The sponge was removed, still retaining a considerable portion of the Chloroform." (pp. 182-3.)

Sulphuric Ether. This Anæsthetic is considered by Mr. Nunneley preferable to Chloroform, in cases where there is any reason to suspect any peculiar susceptibility to the depressing influence of Anæsthetics,—such as asthenic heart disease; also when an operation is likely to produce a considerable shock of the system, or to be long and tedious. But where the patient is plethoric, or very excitable, or where there is a tendency to fever, —when there is any affection of the brain or its membranes, or any predisposition to congestion,—any sthenic disorder of the heart, or disease of any kind in the lungs;—then, if an Anæsthetic must be used, Ether is not the one to be selected.

Chloric Ether is "composed of Chloroform and Alcohol, differing from the former as nitric ether does from sweet spirits of nitre."

From his experiments with this substance, Mr. Nunneley has concluded, that it is a very safe and pleasant Anæsthetic; and one which he would have no hesitation in using, if neither Chloroform nor the Chloride of Olefiant gas were at hand. A large quantity may be inhaled without destroying life.

Chloride of Olefiant Gas—Dutch Liquid. Of this substance, as an Anæsthetic, Mr. Nunneley thinks that it is in no one respect inferior to Chloroform. In his experiments, the animals were rendered perfectly insensible in as short a time, and shewed no uneasiness while passing into or emerging from this condition. There does not seem also to be so much depression induced as by chloroform; and a larger quantity appears necessary to cause death.

Besides numerous experiments on animals, Mr. Nunneley had several opportunities of trying the effect of this Anæsthetic on the human being. "Having ascertained the quick and pleasant manner in which animals pass into a complete state of Anæsthesia from a small quantity of the Dutch oil, and that in no case was there any irritation, I inhaled a few minims myself—not sufficient to lose all consciousness, but to enable me to judge of its effects. These I found in every way agreeable. I now gave it seven times to some medical students. One of them inhaled it three times, one twice, and two once each. In no case were more than thirty minims given, at first, upon a thin cloth; and in four, twenty minims more were given. Six out of the seven times, perfect insensibility was produced; the other gentleman was

made most happy, declaring the seventh heaven was nothing; he was in the ninth—nay, in the eleventh; hoped he might never come out, and so on.

"I now gave it to a parturient woman, in an extremely delicate and feeble condition, with legs excessively œdematous, and, I have no doubt, with diseased lungs, who had been in strong labour three hours with hardly any progress, from a rigid os uteri. Twenty minims were given; and twice, ten. In a quarter of an hour, the child, a small one, was born: the change in the os uteri was marvellous. She was not altogether insensible.

"*Thursday, March 8th.* At three operations at the Leeds General Infirmary, it was given to a man, aged fifty-five, who had had for some years contraction of the adductor muscles in both thighs; the legs were forcibly abducted while under the influence of this fluid. At first, forty minims were given, and the effect kept up by twenty given twice afterwards; in all, eighty minims. The muscles were fully relaxed, and the thighs were much separated. A woman, aged forty-two, had forty minims at once; a small malignant tumour was removed from the side. A boy, aged fifteen, had the outer hamstring muscles of *both* legs divided; in all, he had eighty minims, forty at first, and twice, twenty. The operation necessarily occupied some time. He was unconscious, even after removal to bed. All did well.

"*March 17th.* Through the politeness of my friends, Messrs. Smith, Hey, and Teale, the Dutch oil has again to-day been given in four operations (two young women and two men), with success." (p. 214.)

"I have since given it, in several other serious and important operations, to two women in labour, and several times it has been inhaled for experiment, so that no doubt can remain as to its value. When I used it, I was not at all aware that it had been previously tried; both Drs. Simpson and Snow had tried it, and were led to consider it a dangerous preparation which could not be used. This error, I believe, arose from their using an impure preparation; one which possibly contained free chlorine, which would account for the irritation induced, and must always be avoided with the utmost care; a point, however, upon which there can be no great difficulty, as I have used Chloride of Olefiant Gas perfectly pure, prepared by three different chemists." (p. 326.)

Common Coal Gas. This is not only a powerful, but a very safe and manageable Anæsthetic. "The animal is quickly brought into a state of unconsciousness and insensibility, and that without the least appearance of suffering. It does not act as an irritant, it does not excite a cough, there is no repugnance to the inhalation of it, and the condition of Anæsthesia may be safely maintained, for a period sufficiently long to allow the performance of most operations. It appears to deserve a full and fair trial; and if in practice it should be found, as I believe it will, to be successful, the cheapness of it would be a recommendation not unworthy of attention, should its gaseous form not prove too inconvenient." (p. 332.)

Chloride or Protochloride of Carbon. This, in appearance and properties, has a close resemblance to Chloroform and Dutch Liquid. It is a safe and not unpleasant Anæsthetic, in action not dissimilar to Chloroform and Chloride of Olefiant Gas, but apparently less powerful than either of these. Mr. Nunneley, however, is uncertain as to the purity of the substance employed, and consequently as to the accuracy of the results he obtained in his experiments with this Anæsthetic, described in his paper.

Most of the other substances in the list are rejected by Mr. Nunneley from among those which may be used as Anæsthetics. Some have no pretensions to this property; others are too irritating; others, again, are dangerous in their immediate action; while two—the Bromide of Olefiant Gas and Hydriodic Ether—have the remarkable property of producing death some hours after the animal has perfectly recovered from their Anæsthetic effects. This appears, according to Mr. Nunneley, due to a poisoning of the blood.

Different Modes of Administration. Some experiments have been

made by Mr. Nunneley, with the view of determining the effect of administering the substances by Injection into the Veins, by the Alimentary Canal, and by Prolonged Inhalation.

Injection into the Veins. The effect of Chloroform, and of Sulphuric and Acetic Ether, when thrown into the veins, is not only very rapid, but a very small quantity is sufficient to produce death. The symptoms preceding death, and the appearances presented afterwards, do not differ materially from those caused by inhalation. Of Chloroform, five minims were sufficient to induce unconsciousness and insensibility, but not death ; ten minims destroyed, with every symptom of poisoning by hydrocyanic acid, both before and after death ; while twenty minims almost instantaneously destroyed a large dog. Twenty minims of Sulphuric Ether in one dog did not entirely destroy consciousness ; but in another and larger dog, before the whole of thirty minims could be got into the veins, it was very powerfully affected, and shortly was dead. Acetic ether is quite as destructive—apparently, indeed, more so than sulphuric.

Administration by the Alimentary Canal. Most of the substances, administered in this way, produce scarcely any Anæsthetic effects, acting at first as little more than local irritants, unless the dose be large ; and even then producing less effect than an equal quantity of spirit of wine. "This is an effect which, *à priori*, hardly any one would have predicated, and which may assist in throwing some light upon their action, and evidently depends upon some property in the substance itself, inasmuch as we find a considerable difference in this respect amongst them. Some act very violently and most speedily when applied upon the alimentary membrane, but with much less effect when applied by inhalation upon the respiratory membrane, as conia and spirit of wine. Hydrocyanic acid acts with great intensity, administered by either method, while the ethers, chloroform, Dutch oil, bisulphuret of carbon, (and especially sulphuretted hydrogen,) produce, so to speak, hardly any effect when taken into the stomach, but very decided when inhaled. A comparison of the experiments will show, that where scarcely any effect has been produced when swallowed, a like quantity of the same substance when inhaled, even in the same animal, induced, not merely a complete state of Anæsthesia, but death. When given by means of a sponge, a good portion is blown away by the expired air, so that a less portion, actually reaching the lungs, produces a much greater effect than when swallowed." (pp. 344-5.)

Prolonged Inhalation. The following experiments illustrate the effects of the administration of Anæsthetic agents by this method.

"(Experiment 275.) A four-months'-old cat was put into a gallon jar, with ten minims of Chloroform ; temperature 68 degrees. The jar was not entirely covered over, a small portion being left open at each end (the jar being oval), so that the animal should not suffer from the deterioration of the air. The kitten was soon under the influence of the Chloroform ; and, as the effect passed off, another portion was added, so as constantly to keep up the effect. At each addition, there was some excitement, struggling, and sometimes convulsions, otherwise the cat lay perfectly still, as though asleep ; the heart beat rapidly; the breathing was at times very quiet and feeble, at others more slow and deep. The fæces and urine were passed more than once. It was taken out of the jar three times, wiped clean and dry, and allowed to remain out four or five minutes, while the jar was washed out and dried. When least under the influence, it was offered meat and milk, but during the whole period it would not touch either. At the end of thirty-eight hours, it was dead. It had gradually become weaker, and for several hours had scarcely stirred in any way; indeed it was hard to say whether it was alive or not, and for the last eight hours no fresh Chloroform had been put into the jar, and the cover had in a great degree been removed, so that during this time it could scarcely be said to have been subjected to the Chloroform." (p. 276.)

"(Experiment 281.) On the 17th, at seven P.M., a seven-days'-old kitten was placed in a two hundred and forty cubic inch jar (temperature 60 degrees), with four minims of chloride of olefiant gas. It was soon asleep. During the evening, at intervals of an hour, four minims were put in six times (in all twenty-four minims), when it was left for the night. The next morning (the 18th) it was lying still asleep, but was easily roused on being touched, when it was taken out and put to the cat, which it sucked freely, and was well cleansed. It was immediately returned to the jar, with four minims of the liquid; this was repeated at intervals during the day nine times (in all thirty-six minims), with the effect of keeping it quiet and asleep. At three P.M., and again, at seven P.M., it was put to the cat, but could not suck. The last dose, at eleven P.M., excited it at first when put in; before, this effect had not been observed. 19th, nine A.M., asleep, but soon roused; taken out and put to the cat, which it sucked well. Returned after an hour to the jar, with six minims, which, to half-past seven, were repeated three times. During the day it lay perfectly still, except when touched, when it roused up and crawled about; during the day its eyes became opened. It was taken out and put to the cat, which it well sucked, was made clean and dry, and in half an hour returned to the jar, with six minims of the fluid. This was twice repeated in the evening. At night it appeared exceedingly dull, and likely to die. 20th, half-past eight A.M., after watching it for some minutes, I thought it dead; but on taking it up in the hand, there was the faintest respiratory movement. All day it lay with the jar uncovered, never stirring, and rarely breathing, excepting when touched; its temperature fell to that of the room. A little fæces and urine escaped. Towards evening, seventy-two hours after being placed in the jar, it had so far rallied as to be able to stir the limbs, in the faintest manner, when touched. It was put with the cat, who warmed and cleaned it. As it was found to have revived, but not to have been able to suck, it was left with the mother during the night. None of the fluid had been given to it during the day. 21st, nine A.M., being quite active and well, it was returned to the jar with six minims of the fluid, which was twice repeated during the day: in the evening it was just breathing. On being put to the cat, cold and wet, it was cleansed, but being unable to suck or move, the mother soon left it. In an hour again put in the jar, with four minims of the fluid: this was repeated at half-past eleven P.M. 22nd, nine A.M., it lay in exactly the same position as last night, and really appeared to be dead, but on handling it, the faintest respiration was perceptible. It was of the same temperature as the room, and contrasted strongly with the kitten in the following experiment. It was put to the cat, who again cleaned it, but it did not rouse nor suck. After two hours it was put into the jar, with four minims more: it never stirred after. The respiration became slower, but did not altogether cease until seven P.M., or one hundred and twenty hours after being put into the jar." (p. 281.)

The experiments show that Chloroform is one of the most speedily fatal agents, but that life may be safely preserved, if the condition of insensibility be not carried too far, for a much longer time than is required for any ordinary purposes.

Local Action. This, in all the agents tried, whether applied in the fluid state or in vapour, induces redness, some tumefaction, and paralysis, with loss of feeling, in the part which has been exposed to their influence. Chloroform and Dutch Liquid possess this property in the most marked degree. The limb may be cut, torn, or amputated, without any perception, though sensation remain unimpaired in the other parts of the body. If the hind leg of a frog be exposed to the vapour of Chloroform for a minute, redness, Anæsthesia, and paralysis are produced in it; if the exposure be more prolonged, the other hind limb loses its sensation and motion: and, in time, the whole body participates in the condition. Besides performing experiments on the lower animals, Mr. Nunneley subjected his own fingers to the

influence of Sulphuric Ether, Chloroform, Oleum Æthereum, Acetic Ether, and Dutch Liquid, with the effect of producing more or less sensation of heat, stiffness, and numbness. He also applied Chloroform locally in some operations; it produced heat and smarting at first, but the pain of the operation was greatly diminished, and in some entirely destroyed. Whether in operative surgery the local action of Anæsthetics will be of much use, is, in Mr. Nunneley's opinion, doubtful. "In many cases, as, for instance, lithotomy and deep-seated tumours, they could not be used; and in the larger amputations they would not penetrate to a sufficient depth to render the parts insensible throughout, unless applied for a very long time; and it is not unlikely, that during the long application, the system itself might be affected; besides which, there are many practical difficulties which would impede their use, and which it would not be easy to overcome—as the confining the fluid, without evaporation, to the part wished. In the smaller operations, they certainly may be used so as to induce complete local Anæsthesia; and if there be any constitutional impediment contra-indicating the internal exhibition, as great susceptibility to their action (as in persons of a hysterical or cataleptic diathesis), there the local action should be preferred; but in other cases it is doubtful if the longer time required for their application, and the smarting, which, if there be any abrasion of the skin, is great, and, in a wound of any extent, too great to inflict, which is occasioned, be worth undergoing for the sake of avoiding the inhalation. There can, however, be no doubt, that the local application of Chloroform and other similar agents, in cases of severe pain, is often productive of the greatest comfort and relief. In painful and irritable tumours, the pain may often be alleviated. Tic douloureux has disappeared like magic, by rubbing the part with it, or saturating a piece of lint and covering it over with oiled silk. Tooth-ache may often be charmed away, by a drop put within the decayed tooth. Lumbago and sciatica may be quieted by its use, and in many other cases, the local action of Chloroform has been very successful in relieving pain; as, indeed, great numbers of medical men, who have, since the announcement of its local action, tried it with manifest advantage, can attest." (pp. 350-1.)

At the commencement of his investigation, Mr. Nunneley proposed several queries for investigation. We will give these, and the answers, in an abridged form:

"Question I. *If the property of inducing Anæsthesia be confined to the few substances which have hitherto been used, or if there be not a large class of bodies which have in common the property of temporarily suspending consciousness, or sensibility, or both, vitality remaining; and if this be so, whether these substances are characterized by any similar composition, or chemical alliance, and have a common* 'modus operandi' *upon animal bodies?*"

To the first part of the question, an answer may be returned in the affirmative; to the second, an answer has been given in the remarks on the various substances. The following are the conclusions at which Mr. Nunneley has arrived: "1. That no Anæsthetic substance has yet been discovered, which does not contain *carbon*. 2. That the combination of carbon with hydrogen or chlorine, constitutes the best binary agent; and that the greater the proportion of the carbon to the hydrogen,—being, at least equal to it,—the more powerful the agent is; and if we could obtain a pure liquid of hydrocarbon, containing these equal proportions, easy to be volatilized, and of constant composition, it is highly probable that it would constitute a valuable and safe Anæsthetic; for if the carbon be too much in excess, as in benzole, (where the proportions are as two of carbon to one of hydrogen,) although the compound is a powerful and safe Anæsthetic, yet it is neither so manageable nor pleasant as where the proportions of carbon are not so great,—symptoms being developed, which may reasonably be supposed to arise from the excess of carbon. 2. That hydrogen and carbon may unite, as a radical base, with oxygen, chlorine, iodine, bromine, nitrogen, and, perhaps, some

other substances, to constitute Anæsthetic agents; and that these compounds, or at least some of them, may again unite with acids (consisting, perhaps, of the same elements as the base itself), and yet retain, to a certain extent, the same property as the oxide of ethyle: as nitric, chloric, acetic, and hydrochloric ethers do. 4. That of these ternary compounds, those act the best,—all things taken into consideration,—in which the third element bears the least proportion to the hydrocarbon, especially the carbon; as, for instance, ether and alcohol, perchloride of formyle (chloroform), and hydrochlorate of the chloride of acetyle (Dutch liquid); and of the binary compounds, those in which the atoms are in equal proportion to each other. 5. That substances which are analogous in composition, and isomorphous in form, as well as in physical and chemical character, are often similar in physiological action; but where they are not isomorphous, their action is not similar, as chloroform and iodoform. 6. That substances which are isomeric, or nearly so, but very dissimilar in physical and chemical properties, are also in physiological,—as witness several of the pure hydrocarbons, which, though very similar in composition, are very different in properties. 7. That, should any other combination of elements be discovered, which shall possess more valuable and important Anæsthetic power than those yet known, its composition will probably be found in accordance with the principles now announced. Lastly. We may conclude that the action upon the animal economy of all true Anæsthetic agents, whether carbons or hydrocarbons, whether simple or combined, is essentially the same in character."

"Question II. *What is the* 'modus operandi' *of Anæsthetic substances? In other words,—upon what structures do they act? What changes do they produce? What are their physiological effects? Is their primary effect local or general?*"

Mr. Nunneley concludes: 1. That the action of Anæsthetic agents is immediately and primarily upon the nerves; that the heart's action, respiration, circulation, the blood, and the muscles, are secondarily effected. 2. That, in the first instance, all these substances act as stimulants,—the action being more or less prolonged, but, to some extent, perceptible in all. In hydrocyanic acid, chloroform, and chloride of olefiant gas, the stage of stimulation (unless the dose of the two latter be very small) is short and feeble; with ether, it is considerable; while with alcohol, the stimulant effect alone is produced. 3. That the action is, at first, local. 4. That the action is primarily and directly, not upon the cerebral masses and sensorium, but upon the peripheral expansions of the nerves; that, *cæteris paribus*, the effect is in proportion to the number of these which can be directly and simultaneously acted on: hence the greater Anæsthetic effect produced by inhalation, than by internal administration.

"Question III. *Is there any one of these substances, which should be selected in preference to, or to the exclusion of, all the others? Is there any one, the temporary effects of which are more complete and certain, the permanent more harmless, and its administration more under our control than those of any of the others, so that we should uniformly retain the employment of it, and reject the use of them?*"

This question has been pretty fully answered in the remarks on the various substances. Those substances which possess the greatest power, and the effects of which are least objectionable, are sulphuric ether, the gaseous carburetted hydrogens (of which, common coal-gas is, perhaps, the best), chloric ether, hydrobromic ether, chloroform, the chloride of olefiant gas, and the chloride of carbon.

"Question IV. *Is there any essential difference in the action of these substances, according to the mode in which they are administered? Do they produce the same effects in whatever way they are carried into the body; or does the effect depend upon the nature of the tissue upon which they are applied? And does the same dose, when applied to the same tissue, and in the same manner, invariably produce the same uniform results?*"

The first clause of this question has been already answered; as to the second, Mr. Nunneley thinks that the effect depends more on the extent of surface than upon the nature of the tissue. As to the uniformity of result, it may be said, without hesitation, that the same dose not always produce the same result. The *very* young (new-born) animal will bear a positively larger quantity than the adult; while an older, but not adult animal, will not bear the same quantity as an old one of the same species will. Moreover, the same animal is far more susceptible at one time than at another. "Hysterical females, and lively, excitable animals also, are much more susceptible to the action of Anæsthetic agents than the unexcitable and phlegmatic are. In one instance, a lady called upon me, while suffering from a paroxysm of tic-douloureux, anxious to have immediate relief. I rubbed, upon the face, not more than twenty minims of chloroform, with success; but while doing so, another lady, who had accompanied her, and stood near, complained of feeling the effect of it. On leaving my house, instead of proceeding to some shops, as she intended, the head of the second lady became so confused and giddy, that she was obliged to make the best of her way home again; indeed, she walked so unsteadily, that she afterwards told me she was quite afraid of being supposed to be drunk. She laid down, and slept for several hours afterwards. This lady is one of a family of the most highly hysterical diathesis I ever met with. The quantity of any Anæsthetic which is inhaled in a given time, is of the utmost importance,—*cæteris paribus*, the more concentrated the vapour, by far the greater is the danger. Given slowly, the same animal will inhale at least twice the quantity, without dangerous symptoms, that, if inhaled very rapidly, would be not unlikely to cause death, as a reference to several of the preceding experiments will show."

"Question V. *Are there any symptoms by which we may accurately judge of their effects, and ascertain and control the point to which the system may, with safety, be brought under their influence?*"

In answering this question, Mr. Nunneley remarks, that the vapour should not be so concentrated as to produce a very sudden impression; nor should the Anæsthesia be carried so far as to render the patient altogether unable to stir. This is especially important in the practice of midwifery. Mr. Nunneley is convinced that the plunging a woman into a profound state of unconsciousness, has been often productive of the worst and most fatal consequences. The apparatus used should be simple,—a large, moderately-fine, linen handkerchief is best.

"Question VI. *In case of an over-dose, are there any means which can be employed to counteract the effects? Do we possess any antidotes, or are there any remedies? If so, what are they? In what manner do they act, and how should they be employed?*"

"Of the remedies mentioned, no one appears to possess any great power, in such a condition of things as would call for its employment. It is true, that agitation, cold affusion, a cold stream of air, perhaps electricity or galvanism, and some other stimulants, will expedite the process of rallying, where the depression is not very profound; so, also, it is possible that venesection, by lessening the pressure of the column of blood upon the walls of the heart,—especially the right,—may, when this organ is still acting, facilitate its contraction, and thus assist in restoring the circulation: at the same time it is by no means certain that, with such a depression as exists in the nervous energy, the abstraction of blood may not in itself tend to increase, or, at any rate, to prolong this condition, precisely as it would do in syncope,—to which state it appears not improbable, that the condition induced by Anæsthetics bears some considerable analogy."

"But we have seen that, in the great majority of cases, so long as the heart acts, and respiration at all goes on, the mere withdrawal of the Anæsthetic is followed by the restoration of the functions; and therefore the question forces itself upon us, as to the positive value or not of any of these means. If the

heart has ceased to act, no blood will flow on a vein being opened. If respiration has ceased, and the heart does not move, galvanism, though it may make the voluntary muscles violently contract, only does this by the sooner exhausting their power to do so, without, in any way, restoring the vital functions. Oxygen, of course, if there be no respiration, cannot be taken into the lungs; and the performance of artificial respiration with it, would be both difficult and incomplete, even were it at hand, which it would not, in the great majority of cases, be; while, so far as experiment and chemical action goes, it does not appear that, if it were ever so fully inhaled,—even in combination with the Anæsthetic substance,—it would in any manner prevent the development of full Anæsthesia; and therefore it cannot be for a moment imagined it would, in any way, counteract the effects when they are developed. Ammonia we have seen to be useless and inert, whether given mixed with the substance, or after its effects were produced. The coldness and depression which, in so marked a degree, are present, do not encourage us in the supposition that either cold water or cold air, to any very great extent, would be useful,—a conclusion which the experience of their effects confirms. We are, therefore, reduced to seek just that assistance from their use, as shall suffice to produce such a moderate shock (if the nervous system be capable of receiving any), as may cause a reaction and rousing of its powers, by which the heart and respiration may again be set in motion, or rendered more vigorous. This, as I have before said, appears far more likely to be accomplished by the sudden dashing of a small quantity of cold water upon the face and chest (possibly alternating with heat to the latter), or such a moderate stream of air as may be produced by a fan, and a not too violent agitation of the body, than by excessive violence, or by entire and long-continued immersion. A moderate, interrupted compression of the chest, and pressure upwards of the abdominal viscera, should not be neglected, as tending to change the air in the lungs, and thus to get rid of the vapour there remaining; or, with the same intention, a stream of air might be (not too forcibly) blown through a small tube into the larynx for a minute or two. These are remedial means, which some will, I doubt not, be disposed to exclaim, are very paltry and meagre; and which, it must be allowed, are not of a very energetic or hopeful character. But it is far better to employ such as may do a little good, than to have recourse to those which not only may, but probably will, do a great harm." (pp. 379-380.)

CAUTERIZATION WITH SOLIDIFIED NITRIC ACID.

Dr. Rivallier lately communicated to *L'Union Médicale* his mode of cauterizing cancerous tumours with *Solidified* Nitric Acid. He proceeds as follows:—Some lint is placed in an earthen vessel, and a certain quantity of Nitric Acid, in its highest degree of concentration, is gradually dropped upon it. A gelatinous paste is the result, and to this a shape, in keeping with the tissues to be cauterized, is to be given. The caustic mass is then seized with long forceps, and placed upon the part. After a quarter of an hour, or twenty minutes, it is carefully to be taken off, and an eschar, four or five lines in thickness, is thus obtained. There are cases, however, where the caustic may be left for twenty-four hours, as when the surgeon wishes to destroy a large encephaloid cancer. The pain is trifling, except the skin intervene; and when the caustic is left a long time, there is no pain after the first three or four hours! With large diseased masses, the cauterization should be repeated every day, after the eschar has been carefully removed. When the caustic is applied for a few minutes only, the part should, on its removal, be dressed with lint dipped in a solution of alum. Dr. Rivallier gives a few cases where this method of cauterization was used with success. [*Lancet*, December 1, 1849.]

OBSTETRICS.

THE UNDER-SIZED WOMB.

The following, from the pen of Dr. Oldham, of Guy's Hospital, will be read with interest, especially in connection with the paper of Dr. Vanoni, on Atrophy of the Uterus, and persistence of its infantine condition, of which we furnished an abstract at page 1116 of our number for December 1849.

"There is a variety of imperfect development of the female sexual organs to be met with in adults, which consists in their retaining some marks of an infantine character, being altogether small. This defect is not at first very obvious; there is no striking error; but I believe it to be one which is, comparatively speaking, frequent in practice; and, from not being properly apprehended, has led to much mischievous meddling with instruments for the cure of supposed contractions. I directed attention to this, originally, in a paper on dysmenorrhœa, in the *Medical Gazette* (November 1846); and since then I have seen many other examples, and feel it to be a matter of practical interest.

"*Physical Conditions.* There is some variation in the state of the sexual organs in different cases. The Uterus is generally under-sized; and this is to be detected by poising it on the finger, and moving it from the vaginal cervix. It is then *felt* to be of light weight, and is moved as a lighter body than usual. I have measured the length of the united cavities of the cervix and body, in some cases, with the uterine sound, on the living subject, and have found, in three or four instances, a reduction in length of from a half to three-quarters of an inch; but I have never met with so striking an instance as that recorded in the paper referred to, where these cavities measured only one inch and three-quarters. The light weight is, in a great measure, produced by the thinness of the uterine walls; and hence the examination by the finger, independently of other considerations, is the most satisfactory. The cervix is altogether small, of little substance, and short, and the os uteri is correspondingly narrow and small.

"Amongst my out-patients there is a female, nearly forty years of age, who has been married many years, but is sterile, in whom the os uteri is so small, that the aperture can only just be felt by the finger. I should say that, in size, it was about equal to the aperture of a watch-key. The cervix and body of the uterus are equally small.

"The only mark of arrest of development in this form of Uterus, which I have noticed, has been the presence of the longitudinal striæ in the cavity of the body of the Uterus, which, in the healthy, full-sized virgin Uterus, are confined to the cervix, and are effaced in the cavity. In March 1845, I obtained the Uterus of a young woman, who died in the hospital, of Bright's disease. She had been married six years, but had been sterile. I made the following note of the appearance of the sexual organs at the time: 'The Uterus was smaller and thinner than usual; the ovaries regular in their form, and not at all wrinkled. There were some distended vesicles, and the peritonæal covering was almost rent over one of them: indeed, it was slightly torn. On opening the womb, it was seen injected, throughout the cavity of the body, with a very beautiful capillary *rete*, which ended clearly at the os internum, the canal of the cervix being white and well marked. The cavity of the body had some raised ridges, beginning at the os internum, and branching, or rather bending, round to the two cornua, marking out a triangular figure.' I have taken this as the type of the Under-sized Womb, and it exemplifies the amount of imperfect development which is present.

"The vagina, in these cases, varies a good deal. Sometimes it is well-formed, and in full proportions; but I have noticed some peculiarities. I should say that, generally, it is short and shallow, and rather contracted at its

orifice. In one case, where the small state of the sexual organs was very striking, the upper part of the vagina was contracted into a canal, just large enough to admit the top of the index finger, and curved to the left side. At the top, the small os uteri, with the merest trace of a vaginal cervix, could be felt. This woman had been twice married; she was flat-chested, with small mammæ, and a badly-developed pelvis.

"The general configuration of the body, in these cases, is sometimes without any marked defect. For some years past I have, at intervals, seen a lady who has been married for nine years, and is now nearly thirty years of age, who has never menstruated. She has this low type of womb, and is sterile; but the figure is well and symmetrically developed, and the mammary glands are fully formed. She is of a strumous habit, subject to hysteria; but her general health cannot be said to be bad. More commonly, however, there is something wanting to the perfect evolution of the female form. A flat and contracted chest, or a pelvis retaining the shallow front, cramped ilia, and the forward-looking inlet of the infantine pelvis, and a diminutive stature, are seen in different degrees in different cases.

"The two principal signs of this condition, and those for which medical advice is sought, are scanty and generally painful menstruation, and, in the married woman, sterility. In all the cases I have seen, the amount of the menstrual flux has been less than usual. It may be entirely absent, as in the case I have related; or, as a habit, last an hour or two; or, again, two days or two days and a half, and then be often pale in its appearance, or greenish like the lochia. Very commonly there is pain, more or less severe, during the catamenial times, and then these patients are weak, fainty, and hysterical. Amenorrhœa, for two or three months or longer, without any known cause, and without chlorosis, generally forms a part of the history of these cases.

"*Sterility.* There is nothing in the conformation or capacity of the external organs in this state so to impede sexual intercourse as to require interference on this ground: at least I have never heard of this in a considerable number of cases which I have noted. But, in connexion with the sterility, there is usually sexual indifference, which is, in fact, pretty much the equivalent of impotence in the female. The general health of these females is certainly below par; the forces of life are feeble; there is a want of energy and tone about them; they offer a comparatively feeble resistance to the invasion of disease; and they are below the average of female life.

"*Complications.* I would remark on two complications which have occurred to me in the Undersized Womb: the first is a disease of its cavity, of which I have seen a single case; and the other is a displacement of the body of the Uterus.

"A married woman, an out-patient of mine at the hospital, who had the characteristics and history of this organic defect of the sexual system, began, three years after marriage, to have a thick white discharge, sometimes streaked with blood. She came under my care after five weeks spotting of the red discharge, having all the aspect and emaciation of phthisis. Her lungs were carefully and frequently examined, but without detecting any tubercular disease. On examination by the speculum, I found that the discharge was not yielded from the vagina or cervix, which was healthy; but as I pressed with the speculum, a small quantity oozed out from the os uteri. This was not the mucus from the cervix, but presented the characters of broken-up tubercle, imperfectly mixed with blood. I did this on several occasions with the same result; and I have little doubt, that tubercular matter had been deposited in the cavity of the body of the uterus, that it was then breaking up, and was passed stained with blood. I watched this case with much interest for some time: her general health improved; but by and by I missed her, and I had no clue to her direction.

"This disease, which is a true *uterine phthisis*,[1] is not by any means confined to this type of womb; but I regarded it at the time with much interest, as being a well-marked illustration of the disease, and also in its association with the defect in question." (*Guy's Hospital Reports*, October 1849.)

DR. CHARLES WALLER'S OPINIONS OF ETHER AND CHLOROFORM IN MIDWIFERY.

The following are the Conclusions with which Dr. Waller terminates his interesting paper on this subject, in the *Medical Times* for 10th November, p. 375.

1st. That the inhalation of Ether and Chloroform has been followed by injurious and fatal results.

2nd. That, in natural labours, no reason exists for the employment of a remedy, the efficacy of which is at least doubtful, and its action often hurtful.

3rd. That the action of the uterus is sometimes suspended; but the published accounts are so contradictory, that it is impossible to form an accurate judgment on this point.

4th. That the production of anæsthesia in operative midwifery is likely to be injurious rather than beneficial.

5th. The only circumstances which appear to justify inhalation are—

a. Where there is an unusual degree of nervous excitability and sensitiveness. I should, however, not be inclined to produce perfect insensibility, but should be satisfied with *diminishing* the powers of sensation.

b. Where there are severe muscular pains in the neighbourhood of the uterus, interfering with its action. This state has been well described, by Dr. Power, under the generic term "myopathia", of which he describes several varieties. In these cases, I should recommend moderate inhalation, and not the production of perfect narcotism.

c. In very difficult cases of turning, some benefit might *possibly* be obtained, although, in many instances, a dangerous amount of force might (unless great care be taken) be employed in extracting the child when the patient is in a state of insensibility.

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[1] "I have examined very carefully four specimens of this disease, which has been called strumous ulceration of the lining membrane of the uterus. Its morbid anatomy I believe to be, that *the glandular system of the cavity of the body of the uterus* becomes filled with scrofulous matter. This at first swells out the lining membrane; then it begins to break up, and, with the escape of the matter, the inner surface becomes ragged and deeply furrowed, and the uterine walls consume; that is, become thinner and thinner. This goes on equally over the whole surface; but in one specimen, the breaking-up process had gone on so deeply towards one horn, as to form a cavity there; and had the patient lived, I think it would have gone through the uterine peritonæum, unless its progress had excited inflammatory adhesion around it. This disease is *strictly confined to the cavity of the body of the womb*; it does not touch the cervix; but a clear line, separating the diseased from the healthy structure, exists at the os internum. In one specimen in our museum, the vagina is attacked, but the cervix is free."

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

November 27th, 1849.

Dr. Addison, President, in the Chair.

On Section of the Tendo Achillis in some Cases of Fracture of the Bones of the Leg. By Campbell De Morgan, Esq. After referring to the operation of tenotomy, as practised not unfrequently on the Continent in cases of fracture, when unusual difficulty is experienced in reducing and keeping quiescent the fractured ends of a bone, the author related the following cases illustrative of this practice, where the tibia and fibula were the seat of injury, and the Tendo Achillis that of the operation. He believes they are the only instances thus treated in this country. The first case is furnished by Mr. Shaw, in whose practice it occurred :—W. S., aged 40, was admitted into the Middlesex Hospital on Feb. 12, 1847, having fallen down stairs in a state of intoxication. Both bones of the leg were broken, and the fracture of the tibia extended through both malleoli, the foot being twisted outwards. Violent spasms of the muscles frustrated all attempts to keep the fractured extremities of the bones in apposition; the slightest movement brought on this spasmodic contraction, which extended to all the muscles of the limb, so as to cause great distortion of the foot, and render the skin over the base of the tibia extremely tense. All the symptoms continuing unabated on the following day, and the suffering of the patient being considerable, Mr. Shaw determined on dividing, in the usual way, the Tendo-Achillis, which was very tense. After this, all the difficulties entirely ceased, and no further trouble was experienced in the treatment of the case. The second case occurred in the author's own practice. The patient was a female, aged sixty-six, of drunken habits, and was admitted into the Middlesex Hospital in March, 1849. She had been knocked down by a cab, and both bones of one leg were fractured a little above the ankle. The symptoms and condition of this patient were very similar to those of the last, and every mechanical and therapeutic measure which could be suggested to relieve the spasms was tried in vain. The author divided the Tendo Achillis on the ninth day, with instant relief to the suffering of the patient, and immediate removal of all untoward symptoms. In less than a month, the chasm left after division of the tendon, which was not very great, had disappeared; and a fortnight subsequently, she was able to walk on crutches, and the foot was free from deformity. After some general remarks on the value of the operation in the foregoing cases in relieving suffering and spasm, the author proceeded to remark, that he thought so simple and harmless a proceeding as dividing the Tendo Achillis might be adopted with advantage in other cases of more frequent occurrence, especially as the cure would not thereby be retarded. He concluded with noticing a remark of M. Bonnet's, that he has frequently divided the Tendo Achillis in cases of diseased ankle-joint, where rest was imperative, and where the heel was drawn up by the muscles inserted into it.

Mr. Charles Hawkins remarked, that as the occurrence of spasms during the first few days after a fracture greatly interfered with the well-doing of the patient, the operation might be usefully performed; as it might also, in other cases, in which fracture had not taken place. He had no fear of the elongation of the tendon, a result which he had never met with. Cases of fracture of the patella were, perhaps, in their results, less creditable to a surgeon than any other accident. The patient had rarely afterwards a useful limb, owing in a great measure, as he thought, to the impossibility of

keeping the ends of the bone in apposition. In one case, and in one case only, had he seen bony union occur, and in that the other patella was shortly afterwards broken, and the patient was lamed for life. He had seen a case lately in which, as he thought, this operation might be advantageously performed.

Mr. Erichsen considered the operation justifiable in cases of fracture of the leg low down, when muscular spasm prevented the keeping the foot in position. This operation has been performed in dislocation of the astragalus forwards. The difficulty, in such cases, arises from the upper surface of the os calcis being jammed against the tibia, from which it cannot be replaced, except after the section of the Tendo Achillis, when the foot can be drawn downwards, and the astragalus reduced. This improvement we owed to the modern school of Dublin surgery. Cases of this dislocation have been left unreduced, because the strong spasms of the muscles of the calf could not be overcome.

Mr. Shaw mentioned a case of dislocation of the astragalus, which had been under Mr. Arnott's care in the Middlesex Hospital. The division of the Tendon was effected, but the fracture could not be reduced, and the bone was ultimately excised. The patient did well.

Case of Monstrosity. By James Bower Harrison, M.R.C.S.E. (Communicated by Dr. W. Vesalius Pettigrew.) The author was called on the 10th of January, 1849, about seven o'clock in the evening, to attend a poor woman who was in labour. On making a vaginal examination, he found the membranes protruding in a pyriform tumour, but could not detect through them any part of the child. After the membranes had burst, he made a further examination, and felt a soft tumour presenting, which resembled the bag of membranes before it had been ruptured. Passing his hand around the tumour, he at length discovered a hard substance, partially concealed between the tumour and the parietes of the uterus. This hard body was a distorted leg and foot. A ligature was passed round the foot; ergot of rye was given; the pains, before feeble, became stronger; and, with the aid of slight traction, the foot was brought down, when a finger passed up to the top of the thigh felt a substance which resembled the body of a child having only one leg and no organs of generation; the soft mass being still felt. After some time, the whole mass, with the distorted body of the child, descended and came through the os externum. The fœtus was a monstrous growth. The soft mass was found to be a hernial protrusion of the abdominal viscera, owing to the deficiency of the abdominal parietes below the umbilicus. The navel string had become detached. The right leg was directed transversely, and the foot curved inwards. The left leg was pushed upwards, out of its proper position, by a second tumour, the sac of a spina bifida, the left foot being curved like the other. The ossa pubis were deficient, as well as the spinous and transverse processes of the lower vertebræ, and the posterior walls of the sacrum. The genital organs were imperfect; the head, shoulders, arms, and chest were all natural. Some little time having elapsed, the placenta was removed with the hand; the whole being accomplished by about ten, or half-past ten o'clock; the mother did well. This case possesses considerable interest in an obstetrical point of view; particularly as regards the presentation of a soft tumour in the manner described.

December 11, 1849.

Dr. Burrows in the Chair.

Identity or Non-Identity of the specific cause of Typhoid Fever, Typhus Fever, and Relapsing Fever. By Dr. Wm. Jenner. (Communicated by Dr. Sharpey.) This paper gave a general view of the elaborate and truly valuable papers which the author has recently been publishing in the *Edinburgh Monthly Journal*, and *Medical Times;* from which sources we propose to give an analysis of Dr. Jenner's researches in our Digest of the

Journals. In the meantime, we may announce, that he thinks that he has incontestably proved that the specific causes of Typhus and Typhoid Fevers are absolutely different from each other; and, he conceives, that it is in the highest degree probable, that the specific cause of relapsing fever is different from that of either of the two former.

Dr. Barclay said, that in his own experience, fever without spots was very common; but with spots, uncommon. Out of 111 cases of fever admitted into St. George's Hospital, fifty-nine only were spotted; and this number included all kinds of spots. He had found great difficulty in distinguishing the various spots mentioned in the paper as diagnostic of Typhus and Typhoid Fever, as in some cases the rose-coloured spots changed to mulberry hue. The skin did not enable him to distinguish between Typhus and Typhoid Fevers; his diagnosis was founded on the state of the tongue and abdomen, the dejections, and other symptoms. If the eruption were of a dark hue, ulceration of the intestines was very uncommon; whilst it was always present when the spots were rose-coloured.

Mr. Sankey supported the views of Dr. Jenner.

Dr. Baly said that, as regarded the essential difference between Typhus and Typhoid Fever, his experience in some measure corroborated that of Dr. Jenner. In 1848 and 1849, 117 cases of fever occurred in the Millbank Penitentiary, at the time that Typhus and Typhoid Fever were epidemic without. Twenty were fatal; and, in all, the mesenteric and Peyer's glands were affected; they were all cases of Typhoid Fever. His experience regarding the presence and nature of the eruptions in fever agreed, in the main, with that of Dr. Barclay. Cases occurred without any eruption.

Dr. West believed, with Dr. Barthez of Paris, that the remittent fever of children was of the same nature as the typhoid fever of Louis. The same symptoms, allowance being made for age, were observed during life, and the same appearances after death; the characteristic eruption, however, was often wanting. He recollected no case of remittent fever in a child, in which typhus fever was present in the same house; and the converse of this also obtained. These facts, so far as they went, bore on the difference between typhus and typhoid fevers, and confirmed the view of Dr. Jenner.

Dr. Mervyn Crawford regarded the difference of opinion existing between the physicians of St. George's and the Fever Hospital, as depending on the different circumstances in which they saw cases of fever; in the latter, crowded together, and the poison of the disease more condensed; whilst in the former, the cases of fever were placed in various parts of a common ward, and the poison was thus diluted. He had the same difficulty as Dr. Barclay in recognizing the exanthem. He regarded the eruption as an accidental phenomenon, modified and determined by the state of ventilation, and by locality.

Dr. Jenner said, in reply, that, in typhoid fever, occasionally there was no eruption. The mulberry spots in typhus, at first, in many cases, bore a close resemblance to the rose-coloured spots of typhoid fever; so that, in a few cases, they might be regarded as exactly similar. His experience, however, fortified by two thousand cases, enabled him to assert, that if by the eighth day of the disease the eruption presented the true typhus character, then, if death ensued, intestinal lesions would not be discovered. Dr. Baly's cases, to be of any service in determining the diagnostic value of the eruption, must be confined to the fatal cases where the after-death appearances were described; but these appearances had not been mentioned by him. With regard to the opinions of Dr. Crawford, respecting the influence of impurity of the atmosphere and locality on the eruption, he might state, that the Fever Hospital received patients from all parts of London and its neighbourhood. Personal observation of houses, in these various localities, had not enabled him to observe any difference in their hygienic conditions. It must be self-evident, that no very great impurity of atmosphere existed in the Fever Hospital, as no such change as that mentioned by Dr. Crawford ever occurred. He agreed with Dr. West, that infantile remittent fever was typhoid.

WESTMINSTER MEDICAL SOCIETY.

November 24, 1849.

Francis Hird, Esq., President, in the Chair.

Dr. Daniell briefly related a case of ulceration of the tonsil, attended by profuse hæmorrhage, which placed the patient in great danger, in which Mr. De Morgan had tied the common carotid with success.

The Diagnosis of Ovarian Dropsy. By Mr. I. B. Brown. Amongst the general signs of Ovarian Dropsy, we must place emaciation of the neck and shoulders, an expression of the countenance peculiar, and indicating, in a marked manner, the presence of this disease. The face is elongated, thin, and partially shrivelled; anxiety and care are strongly depicted on it; the angles of the nose are drawn downwards; the lips are thinned; the mouth loses its curves, the angles being drawn downwards; the cheeks are furrowed; the eyes are remarkably defined, owing often to the sunken space between the eyelids and the bony margin of the orbit; the skin is thin and pale; in short, the whole of the cellular tissue of the face is atrophied. The extremities are seldom swollen, as in ascites; and, consequently, the patient can walk about with comparative ease. There is generally little disturbance to digestion and to the action of the liver. Respiration and the action of the heart are less disturbed than in ascites; but the heart's action is feeble, owing to the diminution in the whole mass of the blood.

The special signs are—First, we can generally trace the commencement of this disease from one of the ovaries deep down into the iliac fossa; a tumour pressing between the rectum and the vagina may be felt, either through the walls of the vagina or the rectum, not excessively painful, but elastic; on firmly pressing it, especially if at the commencement of the formation of the tumour, you can get it between the thumb in the rectum and the middle finger in the vagina; but you can also frequently feel an egg-like enlargement around the ovary, through the abdominal parietes, especially if you flex the thighs on the abdomen, so as to relax the muscles. This tumour gradually and definitely increases, still maintaining a rounded outline, and ascends from the pelvic cavity to the abdominal, and rises in the front of the bowels, distending the abdominal parietes, and sometimes reaches the ensiform cartilage, pressing up the liver, stomach, pancreas, and spleen, so as to elevate the diaphragm, and thus contract very considerably the thoracic space. This tumour, which, as it ascends, becomes more fluctuating, occupies the side from which it originates; but whilst it throughout retains a preponderance towards that side, it gradually extends to the opposite. The veins of the abdomen are generally much increased in number and size. The sac containing the fluid being circumscribed, the indications afforded by percussion are also circumscribed, and the sounds on percussion are of course dull over the sac, and resonant over the surrounding intestines. On examination per vaginam, fluctuation can be generally felt through its walls, and the vagina itself is elongated and drawn up, sometimes even under the arch of the pubis; the uterus is also either drawn up or pressed back on the rectum. The cyst is generally round and smooth on feeling it through the parietes of the abdomen, and moveable from side to side, and is not materially altered by change of position, either recumbent or upright. These special signs apply more particularly to unilocular Ovarian Dropsy. In multilocular, we almost invariably have an uneven and irregular surface of the cyst, and generally one or more solid tumours, which appear inelastic and without fluid; but in very many cases, these tumours will be found to be additional cysts, containing fluid, and tense, owing to the pressure of the fluid in the larger one. Mr. Brown had frequently found this to be the case; and this was proved by evacuating the contents of the larger cyst, and again introducing the trocar through the canula still in the opening, thrusting it into the apparently solid

tumour, and finding immediately an escape of fluid. On examining a multilocular cyst, fluctuation is not very distinct, if you examine the entire cyst; but if you tap over any one of the sacs, fluctuation is apparent, but only over that one, not being at all communicated to the adjoining cyst or cysts; where, however, the fluid is gelatinous or albuminous, fluctuation cannot be so readily felt. The same observation applies to those cases containing thick, cheesy matter, mixed with pus, and sometimes also with hair. But we have also distinct solid tumours in connexion with these fluid ones; and then there is no sense of fluctuation. This observation applies both before and after evacuating the contents of the fluid cysts. Having ascertained the nature of the tumour, so far as to say whether it is unilocular or multilocular, the next important subject is to ascertain the presence of adhesions. In examining for adhesions, Mr. Brown directed that the patient should be laid in the horizontal posture, and be made to flex the thighs on the abdomen so as to relax the abdominal parietes; he then moved the cyst from side to side. If this were readily done, he knew there were no adhesions. Again he placed his hand firmly on the relaxed parietes, and moved them over the cyst. If they moved readily, he knew there were no adhesions on the upper and lateral surfaces of the cyst. Again, as the parietes are thin in this disease, he grasped and puckered them up, and then moved them over the cyst, and also saw if they gathered up readily, without raising the cyst itself. If he found these three indications, Mr. Brown determined that there were no adhesions. Another plan, for which he was indebted to his friend, Dr. Sibson, is based on the extent to which the contents of the abdomen are forced downwards during a deep inspiration, by the descent of the diaphragm. If there be no adhesions in front, the upper boundary of the ovarian tumour descends, to the extent of an inch, during a deep inspiration, the place previously occupied by the tumour being now taken up by the intestines; consequently, if you percuss over the upper part of the tumour, a dull sound is elicited during ordinary respiration; but when the patient takes a deep inspiration, an intestinal resonance is there perceptible. Mr. Brown then alluded to those diseases which may be mistaken for Ovarian Dropsy. They were—1st, retroflexion and retroversion of the uterus; 2ndly, tumours of the uterus; 3rdly, cystic tumours of the abdomen; 4thly, ascites; 5thly, pregnancy; 6thly, distended bladder; 7thly, distended bowels from flatus; 8thly, fæces in the intestines; 9thly, diseased viscera of the abdomen.

Mr. B. Travers, jun., recollected a young girl, admitted into St. Thomas's Hospital, some years ago, under the care of the late Dr. Williams. The abdomen was much distended, and, on examination, the disease was supposed to be ovarian. An examination, per vaginam, detected a fluctuating tumour, which, on being punctured with a lancet, gave exit to a wash-hand-bason full of menstrual fluid. This girl's health was bad: she was anæmic, emaciated, and did not sleep. There were other symptoms, also, to warrant the suspicion that organic disease might be present; and he thought the cause, illustrated by this case, might be classed among those likely to be mistaken for ovarian disease.

Mr. Druitt related a case, in which a young woman became enlarged in the abdomen, after being violated; and pregnancy was supposed to exist. The fœtal heart was believed to be heard. Labour, however, did not come on at the ninth month; and it was soon after discovered that the hymen was perfect, and the uterus healthy and empty. It turned out to be Ovarian Dropsy. The impulse of the heart was communicated to the swelling, and hence the mistake.

Dr. Murphy had met with cases of large cysts, or tumours, in the abdomen, resembling the pregnant uterus, and accompanied by sounds imitating those of the fœtal heart. He believed that the pulsation was caused by the beating of the patient's heart, and might be discovered to be so, by comparing the pulse of the patient with the supposed fœtal pulsations.

He wished to hear from Mr. Brown, how he ascertained the existence of adhesions posteriorly; he thought they could not be recognized readily; he had seen one case in which they existed. With reference to one of the cases mentioned by Mr. Brown, in which Mr. Lane had been consulted, he could not understand how, both having made a very careful examination, such a mistake had been made, as to treat it as ovarian, when it was simply ascitic. When ovarian tumours and ascites existed together, the diagnosis was difficult.

Dr. Tilt said, that although the contents of ovarian cysts possessed very different physical characters, they contain *peculiar* cells filled with minute granules, and having the same appearance, however various may be their shape and size. Mr. Quekett, whose authority is of much weight in similar matters, had assured him, that, during the whole course of his microscopic researches, he had never met with these particular cells in any other cystic formation. The observations of Dr. Hughes Bennett,[1] and others, confirm these facts. If future observation prove their truth, we shall have at hand a pathognomonic sign of Ovarian Dropsy; for, by an innocuous exploratory puncture, it will be possible to inspect a portion of the fluid. In a case wherein there was considerable difficulty of diagnosis, Dr. Hughes Bennett did not hesitate to assert the existence of Ovarian Dropsy, after the examination of a portion of the fluid removed from the tumour: and his diagnosis was confirmed.

Dr. Sibson said that Mr. Brown had supplied, in his paper, several very valuable signs, indicating the freedom of an ovarian cyst from adhesions. These were, the power of removing the cyst from side to side, of moving the skin freely over the cyst, and of puckering up the parietes in a fold in front of the tumour, and then moving them freely. Mr. Brown had referred to an additional sign proposed by Dr. Sibson. He (Dr. S.) had been in the habit, for some years, when in the Nottingham Hospital, of making diagrams of the relative position of the viscera in the living as well as in the dead. He possessed several such diagrams taken from persons affected with Ovarian Dropsy. He first mapped out the organs and the outlines of the tumour, by means of percussion. He then desired the patient to take a deep breath, and to hold it; and he then mapped out the tumour and the organ afresh. He found, in the cases referred to, in which the ovarian cyst was free from adhesions, that when they took a deep inspiration, the upper boundary of the tumour was an inch lower than it had been before, being replaced by the resonant intestines which the diaphragm in its descent had pushed downwards before it, they, in turn, displacing the ovarian cyst. The signs of the absence of adhesions brought forward by Mr. Brown were quite conclusive and practicable, unless the abdomen were rendered tense by the greatly increased size of the tumour:—then, the sign which he had proposed would have its value, and would indicate, with precision, the absence of adhesions over the upper and anterior part of the cyst.

December 1, 1849.

Francis Hird, Esq., President, in the Chair.

Falling-in of the Chest during Inspiration, in some Diseases of the Chest. By Dr. Sibson. A young man, aged 34, was admitted into the Nottingham Hospital, under the care of Dr. Hutchinson and Mr. White, labouring under extreme difficulty of breathing. The fauces and glottis were so much narrowed by disease, that only a very small portion of air could enter at each inspiration. The countenance was pale and shrunk, and expressive of distress, anxiety, and starvation. He could only, with difficulty, swallow liquids. The whole chest was narrow and flat, the abdomen prominent. The lungs, though narrow, were much elongated, their inferior

[1] London Journal of Medicine for March 1849, p. 285.

margin being an inch lower than usual. During each inspiration, all the respiratory efforts were laborious and powerful ; but the whole of the sternum, the costal cartilages, and ribs, instead of advancing, were actually forced backwards, to the extent, at the lower end of the sternum, of half an inch. At the same time, while the chest shrunk inwards, the abdomen protruded considerably and forcibly. Mr. White performed laryngotomy. The air entered freely, and the movements of inspiration, so singularly altered, immediately resumed their healthy play. The walls of the chest, instead of yielding inwards, advanced during inspiration ; and the respiratory efforts, instead of being ineffectual and laborious, became effectual and easy. At the same time, the chest, formerly narrow and flat, became rounded and full ; the lower margins of the lungs, which had been dragged downwards, ascended and resumed their normal position ; the countenance, once pallid, shrunk, and anxious, was now ruddy, full, and placid ; and the pulse, formerly almost imperceptible, became full and regular. The cause of the remarkable deviation of the respiratory movements in this case was readily apparent. Air could only enter the lungs scantily, and with difficulty ; the muscular efforts at respiration were laborious ; the diaphragm, acting on the base of each lung, descended forcibly, and lengthened the lungs from above downwards ; the lengthened lungs, being inadequately supplied with air, became narrower sideways, and the walls of the chest were forced inwards by atmospheric pressure. If a bladder, two-thirds filled with air, be lengthened, its side collapse, and a piece of wood, resting on the bladder, will fall backwards ; if we shorten the bladder, its sides bulge outwards, and the piece of wood supported by them will be pushed forwards. So with the lungs ; if they be lengthened when air can scarcely enter them, during the efforts at inspiration their sides collapse, and the walls of the chest in front of them must fall backwards ; on the other hand, if they be shortened during the attempts at expiration, their sides will bulge outwards, and the walls of the chest will be forced forwards. Such was the condition and such the chain of the phenomena in the case just related, — a case which, in its respiratory conditions, may be readily imitated by any one on his own person. Pass a tape round the chest, close the glottis, and attempt to breathe by the diaphragm ; the abdomen will protude, the circumference of the chest will be narrowed, and its walls will be forced backwards. The action of the diaphragm overbalances the action of the muscles acting on the ribs, not because of the superior strength of that muscle ; on the contrary, it is broad and sheet-like, while they are many of them strong and fleshy ; nor yet because it acts directly, while they act obliquely ; on the contrary, for the fibres of the diaphragm are bent upon themselves in an oblique convexity ; their first action is to flatten the convexity, and then, when the fibres are bent almost at a right angle, they draw downwards the floor of the muscle, and so lengthen the lungs. The diaphragm overbalanced the costal muscles and ribs in the case in question, because of the ease with which the lungs can be lengthened from above downwards, gliding, as they each do, freely in an oval cylinder, composed of the costal walls ; and, because of the comparative difficulty, with which the whole of the walls of the oval cylinder in question can be simultaneously expanded sideways. The point is illustrated by the facility with which the piston of a syringe is raised, even when the mouth of that syringe is closed, and by the complete obstacle which is offered to the elastic expansion of a strong, empty, and closed india-rubber bottle. Since Dr. Sibson observed the case just related, he had noticed the same phenomenon in many cases, in which there was obstruction to the entrance of air into the lungs through the large air-passages. He had observed it in cases of croup, of obstruction in the larynx, fauces, and nostrils. The appearance was not alone observed in cases where the obstruction was due to local disease ; it was also to be observed, and in an extreme degree, in every case in which there was convulsive closure, or

great narrowing of the glottis during the struggling efforts at inspiration, as in laryngismus stridulus, the first stage of hiccough, the whoop of whooping cough, and the inspiratory convulsions of hysteria. Dr. Sibson had not observed the walls of the chest to be forced backwards during inspiration, under the influence of obstruction in the outer air passages, to so great an extent in any other case as in that just related, and which he brought forward as a type of the phenomenon in question. The extent to which the respiratory movements of the walls of the chest are reversed in such cases, is regulated by the amount of obstruction and by the flexibility of the costal cartilages. If the obstruction be very great, the whole of the anterior thoracic parietes may be forced backwards during inspiration, the reversed movement being greater at the lower end of the sternum, and less at its upper end. If the obstruction be comparatively slight, the lower end only of the sternum, and the adjoining sixth costal cartilages, will yield during inspiration, while the rest of the walls of the chest will, like those of the abdomen, move outwards. If the obstruction to inspiration increase in a case of croup, for instance, the extent to which the respiratory movements are reversed will proportionally increase; and, on the other hand, the extent will diminish as the obstruction to respiration diminishes. An exact measure is thus afforded, by close examination, from time to time, of the phenomenon in question, of the increase or diminution of the obstruction to respiration. If the entrance of air into one of the large bronchi be completely obstructed by the presence of a foreign body, then the walls of the chest will fall in, during inspiration, over that portion of lung supplied with air through the obstructed bronchus. If there be great obstruction to respiration in the smaller bronchial tubes, as in bronchitis, emphysema, and whooping cough, the same effect on the respiratory organs is produced as in cases where the obstruction is in the larger bronchial tube; the walls of the chest fall in, to a greater or less extent, in proportion to the degree of obstruction, and the flexibility of the costal cartilages. The extent to which the respiratory movements are reversed, is in no instance so great, in the cases where the small bronchi are obstructed, as it may be in those where the obstruction is seated in the outer air passages. In emphysema and bronchitis, while the abdomen protrudes, the upper part of the chest invariably expands during inspiration; while the lower end of the sternum, and the adjoining fourth, fifth, sixth, seventh, and eighth ribs may be forced backwards. In cases in which the obstruction is great, all those cartilages, as well as the lower end of the sternum, may fall in during inspiration; but in slighter cases, the yielding may be confined to the lower end of the sternum. If bronchitis, or any disease in which there is obstruction to respiration in the smaller bronchi, be confined to one lung, or portion of lung, the reversed respiratory movements will be confined to the region of the affected portion of lung. Dr. Sibson had observed the walls of the chest to be forced backwards during inspiration, in some cases of effusion into the pleura; the inspiratory descent of the diaphragm in such cases, may cause the lengthening, and consequent collapse, of the sac containing the fluid. If, in such cases, the effusion be so considerable as to displace the diaphragm to such an extent, that it bulges downwards into the abdomen, then, should the diaphragm act, it will be raised; the pleural sac containing the fluid, instead of being lengthened, will be shortened during inspiration; and the walls of the chest, over the seat of the effusion, instead of being forced inwards, will be forced outwards. When the whole, or a great part, of one lung is incapable of expansion, owing to condensation, then the walls of the chest over the affected lung are usually forced inwards during inspiration: in such cases, the respiratory movements of the ribs of the opposite side are exaggerated, and the lower end of the sternum is drawn over, at each inspiration, towards the unaffected side; the ribs over the affected lung are in turn drawn over by the sternum, and they consequently fall in during inspiration. In two cases of fracture of the ribs with general emphysema, the side on which the ribs were fractured

was indicated by the sinking in of the walls of the chest during each inspiration. When there is extensive effusion into the pericardium, and when the heart is enlarged and adherent, the lower end of the sternum and adjoining left costal cartilages may, in some cases, be forced backwards during inspiration. The yielding inwards of the sternum and ribs during inspiration, is most marked in those whose cartilages are flexible; it therefore occurs most frequently in children and young persons. Indeed, the inspiratory yielding of the walls of the chest is usually present in healthy infants, especially when they sob; in these, the chest flattens during inspiration, the lower end of the sternum receding; but in rickety infants, the chest narrows and the sternum protrudes, the parietes being forced inwards at the junction of the ribs to the cartilages. The phenomenon is least marked, or is altogether absent, in those whose costal cartilages have become firm or bony; it is consequently seldom observed in the aged. It is very seldom that the four superior or thoracic ribs, or the four inferior or diaphragmatic ribs, fall inwards during inspiration, under the influence of obstructed inspiration; the reversed respiratory movement being usually confined to the lower end of the sternum, and to the fifth, sixth, seventh, and eighth, or intermediate costal cartilages and ribs. When the form of the chest is normal, the lower end of the sternum and the adjoining cartilages present the phenomenon in question; but when the sternum is unusually prominent, the ribs alone are forced inwards, and the sternum protrudes. Dr. Sibson described a case, in which, owing to disease of the cervical vertebræ, involving the phrenic nerves, the diaphragm was paralysed, and in which, while the thoracic parietes advanced, the abdominal parietes shrunk inwards during inspiration.

December 8, 1848.

Francis Hird, Esq., President, in the Chair.

Different Forms of Ulcer in the Intestinal Mucous Membrane, which accompany Varieties of Dysentery and Diarrhœa in India. Dr. James Bird brought before the Society several coloured drawings of ulcers in the mucous membrane of the intestines, as they occur in Dysentery and Diarrhœa within the tropics, and gave an account of the cases from which the illustrations had been taken. The plates represented dysenteric ulceration, originating in simple inflammatory diffused action of the mucous follicles, or in specific chronic inflammation of the same, following tubercular deposit in the sub-mucous areolar tissue, in which latter, the transformation of the mucous intestinal coat closely resembles the progress of tubercle in the lungs. These two different forms of ulceration give rise to two distinct varieties of Dysentery, which Dr. Bird characterized under the names of *phlogistic* and *cachectic*, requiring very different systems of treatment—general and local blood-letting being of great utility in the former, and very little requisite for the latter, where sub-nitrate of bismuth, or sulphate of copper, with opium, frequent emollient opiated enemata, blistering of the abdomen, strict limitation to milk and farinaceous diet, with change of air, and other adjuvants, are specially indicated.

Vascular Tumour of the Urethra. By Mr. Hillman. A married lady, aged twenty-six, had been suffering from pain in passing urine for about eighteen months, and for a rather less time also in matrimonial intercourse—so much so, indeed, that the latter had been necessarily discontinued for several months. The pain was aggravated during the menstrual flow. Before coming under Mr. Hillman's care, she had been unsuccessfully treated for gravel. On examining the parts, three or four small growths, of a dark-red colour, were found round the urethral orifice and emerging from its interior. Pressure on the urethra, by the finger, in the vagina, caused great pain. Whilst the patient was under the influence of chloroform, the growths visible externally were removed by curved, blunt-pointed scissors; the urethra was

dilated, and another similar growth removed from the interior of the canal. Not more than two ounces of blood was lost at the time; but on the day following there was slight secondary hæmorrhage. Some purulent discharge followed the operation; but in about three weeks the patient was well, and in all respects quite comfortable.

Epilepsy and Puerperal Convulsions: some of their Relations and Differences. By Dr. Tyler Smith. The author commenced by observing, that there was a common opinion that epileptic persons were more liable than others to Puerperal Convulsions. Reasoning *à priori*, it was natural to conclude that such must be the case, the Convulsions being so similar in the two classes of cases. Closer observations, however, showed considerable differences between the two diseases, which he would briefly enumerate. Epilepsy is generally a chronic, but Puerperal Convulsion is an acute disease. Epilepsy commonly leads to idiocy; Puerperal Convulsions to mania. Asphyxia is more nearly reached in Puerperal Convulsions than in Epilepsy. Epilepsy is a disease of years; Puerperal Convulsion a disease of hours or days. Epilepsy is connected with the ordinary functions of the body; Puerperal attacks belong to an extraordinary function, of limited duration. In the one, consciousness is generally recovered between the fits; in the other, the continuance of coma from fit to fit is very common. The treatment required in the two diseases is very dissimilar. In Epilepsy, there is generally the characteristic aura; in Puerperal Convulsions this is wanting. In Puerperal Convulsions, œdema of the extremities is as common, as it is rare in Epilepsy. These circumstances must induce us to inquire whether Puerperal Convulsions ought not to be studied as a distinct and independent disease, as a variety of convulsions as far removed from Epilepsy, as Epilepsy was removed from the convulsions of infancy. But the important question, which could only be decided by experience, was—Were epileptics predisposed to Puerperal Convulsions? The author related four cases of epileptics becoming mothers, which had fallen under his own observation; in one, the first pregnancy and labour had been completed without any convulsion: in the second, two labours had been completed without Puerperal Convulsions, and the fits were rare during pregnancy; in the two remaining cases, the Epilepsy had been very much relieved during the whole of the child-bearing epoch; and in one, ten pregnancies and labours had passed, without any convulsive seizure. These latter cases were now near the catamenial decline, and were affected with paroxysmal seizures of an epileptic character. Dr. Smith related the particulars of eleven other cases, which had been supplied to him by Dr. Fleetwood Churchill; Drs. Swayne and Herapath, of Bristol; Dr. Robert Barnes; Mr. W. F. Barlow; Mr. Higginbottom; and Mr. R. U. West. The number of pregnancies, in the fifteen cases, amounted to about fifty-one. Puerperal Convulsions of a decided character only occurred in two labours. In one case, there were three attacks of convulsions after the eleventh labour of an epileptic patient; and in another case, there was a single seizure the day after one of five labours. Generally, the epileptic attacks were fewer, and, in several cases, disappeared altogether during gestation. Thus, the presence of Epilepsy by no means appeared to be an active predisposing cause of Puerperal Convulsions; and, so far as the author's inquiries had extended, there was no tendency in Puerperal Convulsions to be followed by Epilepsy, though it might be the case, when organic disease of the nervous centres was induced by the Puerperal attacks. Dr. Smith entered upon a consideration of the causes which lead to the amelioration of Epilepsy during gestation, referring it principally to the rest from the ovario-uterine excitement of menstruation in pregnancy. He dwelt on the frequency with which Epilepsy was connected with the catamenial excitement, many cases only occurring at these periods, and others being aggravated at the monthly dates. He also pointed out the infrequency of

Epilepsy, in purely amenorrhœal or chlorotic subjects, and referred to the fact, that other disorders dependent upon ovario-uterine excitement, as hysteria, and dysmenorrhœa, were relieved by pregnancy. As far as the cases now detailed went, it appeared that marriage was not so much to be dreaded in epileptic females as had been supposed, particularly where the fits were connected with catamenial excitement. It was clearly indicated, that in Epilepsy great attention should be given to soothe menstrual irritation, and that Puerperal Convulsions should be studied and treated without any special reference to Epilepsy. He had confined his attention chiefly to the facts of the cases which he had observed, or which had been communicated to him, and to the most simple and obvious deductions from them; but if these should be modified by future inquiries, he would take care hereafter to inform the Society.

Mr. Druitt questioned the propriety of separating Puerperal Convulsions from other forms of Epilepsy, and thought the distinction more in words than in reality. The same conditions obtained more or less in both, and were often influenced by the same conditions of the blood, and the same central and peripheral sources of irritation. Puerperal Convulsions resembled more nearly those cases of Epilepsy in which the convulsions occurred but once, as for example, from irritation of the stomach, by indigestible food. He had often known epileptic attacks to be caused by excessive beer-drinking. A friend of his, in extensive midwifery practice, in a rural district, during the failure of the potatoe crop, in 1847 and 1848, when the population was much affected with scurvy, had, out of eighty cases, four of Puerperal Convulsions. The poisoned condition of the blood would explain this unusual frequency.

Dr. Murphy had listened with much pleasure to Dr. Tyler Smith's paper, having maintained the opinions expressed therein long ago. The distinction between the two diseases under consideration was more than one of words: it was of essential service in practice. He could confirm the opinions of Dr. Smith by cases. He thought it desirable not to confuse Epilepsy with Puerperal Convulsion, as the two diseases might often require opposite plans of treatment. He agreed with Dr. Smith as to the connexion between Epilepsy and ovarian excitement.

Dr. Barnes said, that, according to Dr. Smith, ovarian excitement was the cause of labour, and also of Epilepsy. He would ask Dr. Smith, why it was not also the cause of Puerperal Convulsions?

Dr. Webster said, that matrimony had been recommended as a cure for Epilepsy. He mentioned a case, related by La Motte, of an epileptic woman who had eight children—five girls and three boys: with the girls she had no Epilepsy during pregnancy, but with the boys she had. This case, though anomalous, was, in some degree, confirmatory of the views of Dr. Tyler Smith.

Dr. Cape agreed in the distinction drawn by the author between Epilepsy and Puerperal Convulsions; for, however similar the symptoms of each, the treatment was usually different. Besides, Epilepsy was more frequent in children than adults, and men were subject to it. Women, moreover, were less likely to be affected by it when not pregnant. Epileptic seizures occur more frequently by night than by day. A young lady was seized with a violent and protracted fit of Epilepsy on the first night of her marriage, during connexion. Her husband imagined she must have been subject to these attacks previously; but her friends denied all knowledge of any such circumstance. She had seizures in the night, without any one knowing it. This lady bore seven children, and had no Epilepsy during gestation or delivery.

Mr. W. F. Barlow had seen several cases of Epilepsy, of an unequivocal character, during sleep. However much he admired Dr. Tyler Smith's paper, he found a difficulty in separating Puerperal Convulsions from Epilepsy: they differed more in degree than in nature, for all the symptoms were similar. Practically, however, Puerperal Convulsions must be separated from the other kinds of Epilepsy. But he agreed with Mr. Druitt, that the Puer-

peral Convulsion was a form of Epilepsy, and that it should so be called. Dr. Tyler Smith had spoken of the state of the puerperal patient between the paroxysms. Epileptic patients often lay in profound coma in the intervals of attack, in cases where one seizure follows another rapidly. He had seen a case, in a young woman, which was fatal after numerous paroxysms, each of which was preceded by a loud "crowing noise"; so that, had the affection happened in a child, it would have been called *laryngismus stridulus*.

Dr. Robert Lee said that he had recently had under his care a lady, who had been suffering from attacks of Epilepsy every fortnight during the last eight or ten months, subsequent to the birth of her second child, when she had Puerperal Convulsions, and he was called to see her. This lady had never before been subject to Epilepsy. Not having succeeded in stopping the fits, which at first occurred during the day, and latterly during the night, he had requested her husband to consult Dr. Marshall Hall, and to place her under his care. The fits still continued every fortnight. This case, Dr. Lee said, was the only one in which Puerperal Convulsions had terminated in Epilepsy, which had come under his observation during twenty-two years. Of the fifty-nine or sixty cases of Puerperal Convulsion which he had seen during that period, there were three in which Epilepsy had previously existed in early life, and a considerably greater number where there had been hysteria. Dr. Lee was of opinion that chorea, hysteria, Epilepsy, Puerperal Convulsions, and puerperal mania, were all different diseases, though closely allied to each other. He related a case of chorea in the sixth month of pregnancy, which occurred in St. George's Hospital in 1842, in which, after the expulsion of the contents of the uterus, the symptoms of chorea passed into fatal Puerperal Convulsions. The brain and spinal cord were both carefully examined, but no morbid appearance was discovered, to account for the phenomena. On what condition of the brain and nervous system these diseases depended, he believed to be wholly unknown; and he considered it certain that they might all occur without any organic disease whatever. Epilepsy and Puerperal Convulsions were not the same disease, though the symptoms observed during the fits were similar. This was also the opinion of Dr. Burns, who states, in page 483 of his *Principles of Midwifery*, that "Puerperal Convulsions are quite different from Epilepsy." Some of the circumstances in which they differ have been pointed out by Burns, but in a less distinct manner than had now been done by Dr. Tyler Smith.

Dr. Willshire spoke at some length on the subject of the causes and symptoms of Puerperal Convulsions and Epilepsy. He thought we were not warranted in considering them as two diseases.

Dr. Henry Bennet, although agreeing with Dr. Tyler Smith in all the main features of his paper, was inclined to think that he attached more importance to uterine irritation as a cause of Epilepsy in females than was warranted by practical experience. Although seeing a great deal of uterine disease in every shape, he very seldom indeed met with the two diseases associated. Thus, in the three hundred cases of uterine disease contained in the appendix to his work on Inflammation of the Uterus, he believed there was not a single instance of Epilepsy. He did not either recollect observing uterine irritation or disease to be of frequent occurrence in the female epileptic wards of La Salpêtrière, during the time he was connected with that hospital, as resident medical officer. These wards contained five hundred incurable epileptic females, and were for some time specially entrusted to his care. If, as he was thus induced to believe, the connexion between uterine disease and Epilepsy was rare, and not frequent, as supposed by Dr. Tyler Smith, the non-appearance of epileptiform convulsions in the parturient state, in epileptic females, was not so extraordinary a circumstance as it must otherwise appear.

[On the motion of Dr. Cormack, seconded by Mr. Streeter, it was unanimously resolved to adjourn the discussion.]

December 15, 1849.

Francis Hird, Esq. in the Chair.

Insanity ascribed to the Use of Chloroform to induce Anæsthesia in Parturition. Dr. Webster related the following case, which had been communicated to him by a friend, on whose accuracy he could implicitly rely. One drachm of Chloroform sprinkled on a handkerchief was used. The effect of the inhalation was sudden, and violent: the patient remained quite insensible; along with the insensibility there was deadly paller of the countenance; from this state she slowly emerged, but had a painful and exhausting labour. For several days she was in a very nervous condition, but not actually incoherent: she soon, however, became furiously maniacal, and required the restraint of the strait waistcoat. After continuing in a state of insanity for many months, she gradually recovered her reason.

Dr. Cormack was not an advocate of universal resort to Anæsthesia in parturition; but, nevertheless, he would remark, that cases such as Dr. Webster had now related did not seem to him to tend, in any degree, to prove that Anæsthesia was dangerous. Here, certainly, was a case of puerperal insanity: but who would venture to say, that the drachm of Chloroform was alone, or even in part, the cause of the attack?

Dr. Snow could not, without further information, recognize the case as one of insanity from the use of the Chloroform during labour. The most necessary particulars had not been furnished.

Dr. Murphy was pleased to think that Dr. Webster was devoting his attention to this inquiry, and he had no doubt, that results of great importance would flow from it. But he would take the opportunity of remarking, that there existed a class of puerperal patients—commonly called hysterical—in whom the most extraordinary and anomalous effects were produced by the administration of any medicine, without reference to its nature, and in whom the impression seemed to be mental. Any unusual proceeding might in them originate such a train of symptoms.

Dr. Webster said that his object was to collect and analyse facts; and he hoped to receive the assistance of the Society, and the profession, by the contribution of cases.

The Arcus Senilis. Mr. Canton displayed some sections of the cornea, under the microscope, taken from a female, aged eighty-two years, with a view of showing the Arcus Senilis to be a fatty degeneration of the cornea. In the same subject, (a spare woman, who had died apparently of old age,) the heart and arteries were affected with the like atrophy,—with degeneration, as it has been termed by Professor Paget. Several other specimens, made from the corneæ of persons who had passed the age of fifty, showed the deposit between the fibres of the part. Mr. Canton stated that he had not as yet met with the appearance of a corresponding deposit in the edge of the crystalline lens, as had been mentioned by Dr. Schön, of Hamburgh. A clear internal layer of cornea is always to be seen between the edge of the senile zone and the margin of the sclerotic.

Two Hen-Eggs united at their Ends by a Band, were exhibited by Dr. Cormack. The eggs were rather less than the usual size, and somewhat elongated, apparently in consequence of their having been squeezed together during their growth, when the shell was being formed. At their points of apposition there existed a great roughness of the shell: an effort probably towards union of the eggs. Dr. C. stated that anomalous formations of the hen's egg were not by any means uncommon; but, though he was familiar with many of them, he had never met with one like the present. Double yelks have been frequently observed, and Dr. C. had once seen a triple yelk: but here were two perfect and distinct eggs, each with its own shell, united by a neck or band, about a quarter of an inch in diameter, also slightly covered with shell, and containing, apparently, a band

of the white matter, and the medium of union between the eggs. Considering the great size of the conjoined eggs, and the parallel position in which they had evidently been expelled, it was surprising that they had not been fractured (except slightly at their neck), or that the hen had not been injured. Hens frequently die from the egg assuming a transverse position in the oviduct, unless some one in charge, suspecting the nature of the case, introduce the finger and turn the egg. The hen which laid the united eggs was five-toed, of the Dorking breed, and belonged to Dr. Cormack.

Mr. Wing had never before seen two eggs joined; there were in the possession of a friend of his, two chickens united by a band, just like the Siamese twins. They died before they were hatched; and when he saw them, they were preserved in spirits.

Adjourned Discussion on the Relations and Differences between Epilepsy and Puerperal Convulsions. Dr. Cormack said that it was not his intention to enter upon that department of Puerperal Convulsions, regarding which he had so recently had the honour of addressing the Society: viz., those epileptic seizures which occur in pregnant women from toxæmia, which he had described as being chiefly of renal or lochial origin. The renal Puerperal Convulsions were not necessarily—nor indeed were they generally—connected with organic disease of the kidney; the pressure of the uterine tumour upon the emulgent veins being sufficient to cause congestion and functional disturbance of the organ, deficient blood-moulting, and consequent toxæmia. The lochial Puerperal Convulsions depended on toxæmia from suppression of the lochial discharge. Toxæmic convulsions—renal and lochial—were produced by direct impressions on the spinal centre; but the cases which had been so instructively brought before the Society by Dr. Tyler Smith were of reflex or excentric origin; though of course it must be remembered, that cases of mixed origin occurred.

The main propositions which the author had sought to establish were these—"That epileptics are not more liable than others to Puerperal Convulsions; and that pregnancy has a tendency to ameliorate Epilepsy." But what is Epilepsy? What are Puerperal Convulsions? Epilepsy cannot be considered as the name of a disease; and if it have any definite meaning at all, it is when limited in its use to describe a particular form of convulsion. Its causes are very various; and ovarian irritation is only one of them. Again, Puerperal Convulsions do not by any means always depend upon the same pathological causes; and each case must stand by itself, till investigated, and placed in its own group. The term is mischievous, if employed with reference to causes or treatment; and ought to be restricted to its simple meaning—viz. convulsions occurring in puerperal women. They may not be epileptic; but they are generally of this description. Dr. Cormack had seen, in common, he ventured to say, with most of those whom he addressed, fits of strictly epileptic character, characterized by coma, clenched teeth, and bitten tongue, arising from the renal disorder of scarlatina; from toxæmia dependent on organic or functional disease of the kidney, or of the liver; from irritation of the peripheral extremities of the intra-cranial nerves by osteophytic spicula, or by the presence of effused fluids within the cranium; from cerebral hypertrophy or tubercular deposit; from irritation of the fifth pair of nerves in dentition; from irritation of the nerves of the stomach, bladder, uterus, and ovaries—and, he said, if Epilepsy be more common in females, this preponderance must depend upon the two latter causes. The greater frequency of Epilepsy in women is not, however, established; for there is reason to suppose, that the severer forms of certain other convulsions to which the sex are liable, have been indiscriminately placed with it; and possibly a rigid diagnosis might nearly, if not entirely, equalize the number of epileptic seizures in the two sexes. From these considerations, Dr. Cormack maintained, that ovarian irritation was not so frequent a cause of Epilepsy as some supposed;

and that it was only when the fits depended upon that cause, that the ovarian repose of pregnancy could be ameliorative. Ovarian repose, however, was by no means a constant condition in gravid women. If a young unmarried woman had epileptic fits, only at her catamenial periods, marriage might be allowed, because pregnancy would probably be curative; but it was only when thus stringently limited, that the sanitary influence of marriage in epileptics could be admitted. And if Dr. Smith's proposition were intended to be a general one, he (Dr. C.) must dissent from it. The ovarian repose of pregnancy can only be curative, when the seizures depend on ovarian excitement. Taking all cases indiscriminately, however, he believed it to be true, that Epilepsy was rarer among pregnant, than other women. He had incidentally stated this in a paper which he had read to the Society.[1]

An interesting case, put on record by La Motte, had been mentioned by Dr. Webster, as bearing on the question of pregnancy in epileptics. The facts did not appear to be so anomalous, as Dr. Webster had said. An epileptic woman married; and the history of eight successive pregnancies was, that when five times gravid with girls, she escaped; but that on the three other occasions, when the children were males, she had epileptic fits. The explanation of the case is this: on each occasion, pregnancy proved prophylactic against her old disorder—ovarian Epilepsy; but this benefit was only manifest, when she was gravid of female children, because, in her other pregnancies, the male fœtus, from the greater bulk of the uterine tumour, caused renal toxæmic convulsions. In illustration of this point, Dr. Cormack referred to the statistics of Dr. Collins.

There exists an analogy between the intra-cranial osteophyte of many non-puerperal epileptics of both sexes, and that remarkable condition of the cranium which obtains during pregnancy, and which was discovered and described about ten years ago by Rokitansky. The Wenzels and others observed long ago, that in epileptics of both sexes, the calvarium was commonly thickened, and had bony spicula projecting inwards from it, and that a bony deposit was to be found in the dura mater and pituitary body. Modern physiology points to these spicula as the cause of convulsions, by their irritating the peripheral extremities of the intra-cranial nerves. Now, if we have in pregnancy an osseous deposit on the intra-cranial surface, as a normal condition, how very probable is it, that when the deposit is either in excess, or, in place of being smooth as it generally is, on its cerebral surface, is rough and jagged, we may have thereby produced, epileptic seizures. If so, here we have an analogy between a group of cases of Puerperal and non-puerperal Convulsions, which has not hitherto been suspected. Dr. Cormack thought that the whole subject of osteophytes required elucidation, and was one which, if properly investigated, might throw much light on those incipient derangements on which certain cases of Epilepsy depended. He regarded the osteophyte as an inflammatory product, or at least as one which required a highly fibrinous condition of the blood; and in proof of this referred to the condition of the blood in pregnancy, and to a paper on osteophytes in pleurisy by M. Parise, in the *Archives Générales de Médecine* for November of this year. He also read an account of the discovery made by Rokitansky, from p. 16 of Dr. Fletcher's *Elements of General Pathology*, and referred to the confirmation of this discovery by Ducrest[2] and Moreau. The subject had hitherto been looked on as one merely of curiosity, but he thought it might yet be found to have an essential bearing on pathological doctrines.

The following are the observations of Professor Rokitansky, read to the Society by Dr. Cormack:—"Professor Rokitansky, of Vienna, describes a cal-

[1] "From some convulsive attacks, *e. g.*, Epilepsy, she seems very frequently to be respited, in virtue of her pregnancy." Dr. Cormack, in London Journal of Medicine, June 1849, p. 535.

[2] *Edinburgh Monthly Journal* for 1844, p. 232, quoted from the *Mem. de la Société Médicale d'Observation de Paris*, vol. ii, 1844.

careous deposit on the internal surface of the skull, as being almost constantly present in the pregnant and puerperal states. This deposit varies from one-sixth, one-third, to one-half of a line in thickness. It appears principally on the frontal and parietal bones, especially in the course of the arterial sulci. Sometimes, it is found on the base of the skull, and the frontal bones. It does not extend uniformly over the surface of the skull, but is scattered like little islands, leaving intervals quite unaffected. It may be considered as an almost invariable appearance in pregnancy, and does not at all indicate any abnormity of that condition. It seems to depend on the state of the uterus during pregnancy, as it has not been observed either in cases of extra-uterine conception, or in cases of polypi of the uterus. It has been detected as early as the third month of pregnancy. This formation of bone has been observed in three distinct stages of development. First, as a yellowish red and gelatinous vascular condition, easily separated from the *tabula vitrea* by the knife. Second, as a thin, weak, porous, calcareous layer, attached by a gelatinous exudation to the skull; this is likewise easily separated by the knife. Third, as an osteo-cartilaginous plate, attached to the skull by numerous fine vessels, which must be torn through before it can be separated. These three stages of development are generally observed in the same skull. As far as observations hitherto made lead, it would seem, that such a deposition takes place at each pregnancy, and that the substance so deposited is not absorbed. Thus, Rokitansky is of opinion, as well from these facts as from numerous observations, that the skull becomes permanently thickened by frequent pregnancies. Regarding the connexion of this osteophyte with the symptoms that appear in pregnancy, and its relation to that condition of the system in general, we are as yet wholly unacquainted." (*Fletcher's Pathology*, edited by Drs Drysdale and Russell. 1842, p. 16; from *Œsterreich. Medicin. Jahrbücher*, Band. xv, s. 501.)

M. Moreau's observations were read from the *Edinburgh Monthly Journal* for September 1846, as quoted from the *Journal de Chirurgie*, for 1845. Moreau states that the osteophyte can always be separated from the skull-cap, and that it leaves its vitreous table uninjured, and healthy. In forty-two cases, he found the first degree of thickness and solidity thirteen times, the second, twenty-one times, and the third, eight times. A recent observer had noticed osteophyte in the bones of the pelvis, as well as of the cranium, of pregnant women.

In conclusion, Dr. Cormack reminded the Society, that the three points to which he had attempted to direct attention were:—

1. That the term Epilepsy should be used only to designate a particular form of Convulsions.
2. That pregnancy can only ameliorate the condition of epileptics, when the Epilepsy is dependent on ovarian excitement.
3. That the abnormal development of the intra-cranial osteophytes of pregnancy may be an occasional cause of Puerperal Convulsions.

Mr. Streeter observed, that the valuable remarks which they had just heard, showed that the Society had done right in continuing this discussion, and that the subject had by no means been exhausted by the speakers at the last meeting. He thought the inquiry, whether Epilepsy predisposed to, or exempted from Puerperal Convulsions, novel, and important. In a disease which was so comparatively rare, as to have occurred only thirty times amongst sixteen thousand four hundred and fourteen women, during Dr. Collins's Mastership at the Dublin Lying-in Hospital, or about once in 548 labours, the question could not be fairly answered by appeals to individual testimony. Dr. Tyler Smith had, therefore, done good service in collecting those units of personal experience, from the accumulation of which, the connexion between the two diseases might be proved or disproved. As he (Mr. Streeter) had never had a case of genuine Puerperal Convulsions in his own practice, his experience had been limited to a very few cases which he had seen

in that of others. In those, he was not aware of their having had any previous Epilepsy, while he had certainly known Epilepsy occurring during gestation, and causing sanguineous infiltration of the labium, not followed by Puerperal Convulsions during that or a succeeding labour. In another instance, Epilepsy occurred after marriage, but neither the first nor succeeding labours were attended with Convulsions.

In considering the next question proposed, viz. the influence of marriage, he thought the scientific inquiry ought not to be limited to its influence over the female, but extended to its effects on her own children, and those of their offspring. For it most certainly happened, that family resemblances reappeared after one generation; and what was true of the face, most likely existed with respect to internal predispositions and peculiarities. Much happiness would arise, and much grief and disappointment be avoided, by a more strict obedience to those laws of breeding which the Creator had appointed. They were diligently studied and carefully enforced among hordes and the lower animals, but he feared that during "negotiations for hymeneal alliances", medical opinion was rarely sought for any other purpose, than that of finding reasons for justifying the inclinations of the contracting parties. One general rule, however, might be safely applied to the case of Epilepsy, viz. that of avoiding a similar defect or tendency in the parents.

While speaking of the similarity of Epilepsy and Puerperal Convulsions, he observed that the term Epilepsy was applied far too loosely to every convulsive movement attended with insensibility. He thought it should be restricted to convulsive attacks implicating, not only the general muscles, but those of the face, tongue, the larynx, and the respiratory organs. Puerperal Convulsions seemed to him most nearly allied to those fierce attacks of acute Epilepsy which occurred but once or so during childhood. The frequency with which vegetable poisons produced convulsions, led him to favour the toxæmic or humoral theory of Puerperal Epilepsy, rather than the osteophytic or solidist causation brought before their notice by Dr. Cormack, who also regarded it as a much rarer cause of Puerperal Convulsions than toxæmia. At the same time, he must say, that both the toxæmia and osteophyte were to his mind only predisposing causes; the immediate cause was the irritation of the nerves of the lower segment of the uterus—those supplying the os and cervix, which are exposed to injurious pressure, and the irritation of distention, at the commencement and during the progress of labour. In practice, he had always endeavoured to relieve this, where the dilating stage was attended with more than usual suffering, by gently pressing back the head at the termination of each pain. This freeing the parts from continuous pressure between the pains often gave great relief, especially where the uterus was low down in the pelvis in the early stages. The very great proportion of cases in which Puerperal Convulsions occurred in first pregnancies and in unmarried women must not be overlooked, for it showed that there was something more than physical irritation, whether excentric, osteophytic, or toxæmic;—that additional cause was the centric one of mental emotion. Mr. Streeter concluded, by dwelling on the importance of keeping in view the centric and excentric causes of convulsive diseases, and the mutual influence which these causes exert over each other. He exhibited a tabular view of the data furnished by an analysis of 144 cases of Puerperal Convulsions, which he published eight years ago.[1]

Mr. Wing, after acknowledging Dr. Tyler Smith's valuable paper, expressed himself as having been deeply interested in Dr. Cormack's important observations upon a former occasion, as well as upon the present, respecting the relation between the condition of the urinary organs, and their secretion, in Epilepsy, and in connexion with Convulsions in first labours. Mr. Wing had attended, some years since, two cases of Puerperal Convulsions, in which

[1] Moreau's Icones Obstetricæ. London: Baillière. 1842.

retention of urine was present. It was drawn off, the other symptoms attended to, and both patients did well. In Dr Burrows' excellent work on Insanity, it is said, that persons predisposed to Epilepsy have peculiarly prominent eyes, arising from the great fulness of the blood-vessels supplying those organs; and that it is so marked a diagnostic, that it is designated the "epileptic eye." It is accompanied with a peculiar glaze over it, as in mania, and which it is necessary to observe, to prevent any confusion in distinguishing it from the large convex eye of near-sighted persons. Dr. Smith's paper had elicited from Dr Cape a most interesting case of epileptic fits, as having occurred in the night only; and which had involved parental honour, and a child's matrimonial prospects and happiness in life. A young lady, unconscious of her nightly attacks, entered into the marriage state; and, on the nuptial night, an epileptic fit took place, which gave rise to distressing explanations,—the parents avowing their entire ignorance of the previous existence of their child's affliction. Mr. Wing could readily feel disposed to exonerate both the parents and their child, from the experience which he had had in Epilepsy. In one confirmed case, of an adult, which he attended during nine weeks, in a private asylum, though he was frequently seized with paroxysms during the night, there was but one attack (to Mr. Wing's knowledge) during the day, and it arose only from an accidental source of irritation. In reply to interrogatories from time to time, the patient denied being cognizant of his epileptic seizures.

Mr. W. F. Barlow rose to remind the Society, that it was not the general subject of Epilepsy that was before them, but certain definite propositions. If Fellows did not confine themselves to the subject of Dr. Smith's paper, the discussion would become desultory and endless.

Dr. James Bird had listened with much interest to Dr. Cormack's observations, especially to those which referred to toxæmic Puerperal Convulsions. He apprehended that toxæmia was the cause of those epileptic attacks which, according to Mr. Druitt's experience, so frequently happened among those who drunk beer to excess. As to the influence which habits of beer-drinking might have in producing convulsions, he could not speak from his own experience; though he possessed many facts to show that habits of spirit-drinking were very influential in producing them in connexion with attacks of delirium tremens. He thought that the pathological relation, character, and origin, of the epileptiform varieties of this disease, were calculated to throw some light both on the analogies and differences of Puerperal and other Convulsions. Out of seventy cases of delirium tremens, which he had seen from 1835 to 1840, six were attended by epileptic seizures, which in five instances proved fatal. Of these five, three terminated in death by asphyxia, and two by coma. Of the asphyxiated cases, two were accompanied, during life, by almost complete suppression of urine, and were fatal from toxæmia; the other was associated with endocarditis and fatty degeneration of the heart, as revealed by the necroscopic examination of the body. The two cases of coma terminated by the copious effusion of bloody serum into the ventricles and substance of the brain; which effusion was accompanied, in one of them, by great hypertrophy of the dura mater. Now, the *eclampsia* and state of coma in the latter were more nearly allied than in the other, to apoplexy and Epilepsy proceeding from irritation and hyperæmia in the nervous centres; whereas the cerebral congestion, which followed the cardiac and pulmonary congestion, with attendant convulsions of the latter, were results of peripheral irritation of the extremities of the sentient and motor nerves, in connexion with the spinal marrow, as is usual in cases of Puerperal Convulsions. In such cases, the irritation is peripheral, and the convulsions reflex, giving them a characteristic difference from those of pure Epilepsy, where the hyperæsthesia, or exalted sensibility, is centric in the brain or medulla oblongata, and irradiates on the motor nerves so as to produce convulsions. No essential distinction of the two diseases can be made out

from any difference of symptoms ; but the marked pathological distinction between Epilepsy generally and Puerperal Convulsions, is that the former has its origin in irritation and exalted sensibility of the brain as a nervous centre, the latter in a like state of the peripheries of the nerves and spinal marrow. Epilepsy and epileptic delirium tremens are frequently the result of toxæmia: but Puerperal Convulsions do not usually claim this origin. Epilepsy and delirium tremens proceed generally from centric, but the latter from peripheral nervous irritation. Epilepsy may be therefore regarded as a state of psychical hyperæsthesia of the nervous centres ; Puerperal Convulsions as hyperæsthesia of the peripheries of the nerves ; and, as this exalted sensibility, in either kind of convulsion, may be conjoined with a state of hyperæmia or with an opposite state of anæmia, the treatment required must necessarily be very different in those two opposite conditions.

Dr. Snow said, that the cases of Puerperal Convulsions which he had seen, bore a much closer resemblance to the convulsions which occurred in certain cases of renal disease, than they did to ordinary Epilepsy ; and he agreed with the opinion expressed by Dr. Cormack, in his paper on this subject, last session, that the greater number of cases of convulsion occurring in the Puerperal state, were caused by congestion of the kidneys, and the consequent detention of the urinary salts in the blood. He was ready to admit, however, that a few cases might depend on peripheral irritation of the nerves, as alleged.

Dr. Routh believed that the cause of most Puerperal Convulsions was toxæmia from renal disease. Renal disease was very common in England, and more particularly among the lower classes : in Vienna it was rare. He had noted, during his residence at Vienna, that out of about 3,000 cases of labour, there were only two cases of Convulsions. He also concurred with Dr. Cormack in believing, that the greater frequency of Puerperal Convulsions in primiparæ, was to be explained by the backward pressure of the uterine tumour upon the kidneys, through the greater rigidity of the abdominal parietes. *A priori*, we might expect a patient affected with Bright's disease to have Puerperal Convulsions, even though the renal disease was slight. He thought that the etiology of Puerperal Convulsions could only be made out by an examination of the urine—not merely during labour, when it was almost always albuminous, but likewise before, and after. If the Epilepsy, under which a patient laboured before pregnancy, was due only to ovarian excitement, *à priori*, we ought not to expect Convulsions during labour.

Dr. Scott Alison would like to know from Mr. Streeter, Dr. Routh, or from any Fellow, whether there was evidence on record, which could be produced, to show that, in cases of what was commonly understood by the term Epilepsy, the kidney was affected? Epilepsy was, in his opinion, generally an hereditary disease.

Dr. Webster said that he was acquainted with the principal statistical facts regarding about four thousand cases of Epilepsy and mania; and with regard to hereditary transmission, there was this remarkable difference :— that the male parent was more apt to transmit Epilepsy, and the female, mania. As to the state of the kidney, he could say nothing, as many of the patients referred to were still living.

Dr. Scott Alison. The point may be very often settled, even as regards living patients.

Dr. Webster assented.

Dr. Tyler Smith could sincerely assure the Society, that the cases he had related in his paper, were not selected with a view to support any particular opinion ; he had by no means sought for instances of ovarian Epilepsy, followed by pregnancy, but had, with the strictest impartiality, included all which had come within his knowledge. He had listened with much interest to the observations of Dr. Cormack on the osteophytes

of Rokitansky; but he could not consider them to be very powerful as a local cause of Puerperal Convulsions, because of their regular and uniform appearance during gestation and the Puerperal state. Their study would, however, be most interesting in relation to the condition of the blood during pregnancy; particularly when it was considered, that during the two great convulsive epochs,—those of dentition, and gestation,—the economy was busily engaged in applying phosphatic salts to the formation of teeth and the consolidation of the osseous tissues, in the one case, and to the organization of the bones of the fœtus, in the other. Future observation might give to the state of the blood, which obtains during the progress of ossification, a considerable share in producing that erethismus of the nervous system, through which Convulsions were readily excited. Undoubtedly, as Dr. Cormack had said, experiments proved that irritation of the intra-cranial nerves might produce excentric Convulsions; and in some cases of Epilepsy, this was evidently a cause of the Convulsions; but he regarded the thickening of the calvarium and skull, so generally met with in the post-mortem examinations of old epileptics and insane patients, as a consequence, rather than a cause, of the paroxysmal disease; and as produced by the frequent congestions of the cerebral and cranial vessels during the attacks, and even in the intervals. He admitted the importance of the effects of the pressure of the gravid womb upon the renal vessels, and the impediment to the full depuration of the blood by the kidneys, which this occasioned; but he did not quite admit it, to the extent contended for by Dr. Cormack. Something more was required, some local irritation of a severe kind, otherwise Convulsions would be as common during gestation, as at the time of parturition; and they would rarely occur, as Puerperal Convulsions often did, after all abdominal pressure had been removed by delivery. In the case of La Motte, he could scarcely allow that the abdominal pressure was the cause of the Convulsions during the pregnancies with male children: some other explanation must be looked for. As regarded pressure upon the abdominal vessels, the difference between a male and female child, during gestation, was almost infinitesimal; but the difference was greater, when the fœtal head came to pass through the bony pelvis and rigid parturient passages of a primiparous woman. Not only the greater size, but the more perfect ossification of the head of the male fœtus, increased the irritation produced by its transit, to a very considerable degree. To this increased irritation during delivery, in cases of male children in primiparæ, he felt obliged to refer the greater frequency of Puerperal Convulsions in such labours. He said this, with a full consciousness of the importance of the state of the blood in causing the tendency to the disease. In reply to the excellent observations which had fallen from Mr. Streeter, respecting marriage in Epilepsy, he would say, that he had merely mentioned the fact, that in certain cases, Epilepsy was relieved, and in others suspended altogether, by marriage and child-bearing; and he had drawn the obvious inference, that marriage was not so much to be dreaded as might be imagined. But he had by no means intended to recommend marriage to female epileptics, fully conscious as he was of the responsibility of an epileptic female, not only as regards herself and her husband, but also her posterity. The facts relating to the matter were, however, valuable, particularly as we were too seldom consulted by persons in matters which concerned the passions and inclinations, except to remedy mischiefs already committed. With this explanation, he quite agreed with the views of Mr. Streeter on the moral point. Dr. Snow had compared renal Epilepsy with Puerperal Convulsions, and the same comparison had been made by Dr. Routh, in the inferences he had drawn from the rarity of Puerperal Convulsions and of albuminuria in the great hospitals of Vienna. He would admit, that the Puerperal Convulsion more nearly resembled the Convulsion which occurred in the course of renal disease, from the impure state of the blood, than any other form of Convulsion. But even here, there were important differences. In the cases he had

seen, the convulsions were not so severe in the renal, as in the puerperal variety. In renal disease, the convulsion generally occurred in the latter stages of the disease, when death was imminent, whereas the Puerperal Convulsion was less frequently followed by death. In albuminuria, urea was present in the blood, in large quantity; in Puerperal Convulsions, it was not. A writer in the *British and Foreign Medico-Chir. Review* for October, evidently speaking from experience, had stated, that cases of Bright's disease, on becoming pregnant, had not been affected with Puerperal Convulsions. This was highly important, as it appeared to indicate the distinctness of the two diseases. Dr. Routh's observation of the infrequency of Puerperal Convulsion in Vienna, was directly confirmatory of the facts he had detailed in his paper; as no doubt Epilepsy was a frequent disease in that city. Mr. Druitt had contributed an interesting fact to the pathology of Puerperal Convulsions, one which was especially interesting, as convulsive affections were sometimes present in cases of scurvy, apart from pregnancy. Probably these cases formed a distinct variety of Puerperal Convulsions. He agreed with his friend, Mr. Barlow, whose knowledge of the diseases of the nervous system gave value to his criticism, that one could not say, that the form of the convulsion, the spasmodic action, was different in the Puerperal Convulsion, as compared with the Epileptic Convulsion. Still he thought a distinction between the two should be preserved. As regards mere symptoms, we could not well separate the Convulsions of dentition, from the Epilepsy of the adult; yet every one recognized the distinctness of the two diseases. So, with regard to the argument of Dr. Willshire, if we went to the ultimate phenomena observed in Convulsions, and grouped together all diseases in which the effects or essences were the same, however different their causes, we must call by the same name, chorea, stammering, epilepsy, tetanus, and hydrophobia: for in all, morbid contraction of the external muscles was the essential phenomenon. This, as far as he understood it, met the objection of Dr. Willshire. Such a plan would be obviously inconvenient. For practical purposes, it was necessary to study dissimilarities as well as similarities, diversities as well as analogies. If he had referred to these points, he should have agreed with Dr. Webster and Dr. Cape, respecting the times of the apoplectic seizures. Epilepsy, when aggravated by the catamenial periods, generally appeared before the actual setting in of the menstrual flow. The occurrence of Epilepsy during sleep had been noticed from the earliest times; the act of falling into, and waking out of, sleep, frequently induced a fit in persons liable to convulsions. The relations between the congestion of sleep and the epileptic seizure had been elucidated, in a clear manner, in the papers of Dr. Marshall Hall, in the *Lancet*, which were certainly the most important contributions which had yet been made to our knowledge of convulsive affections, particularly in relation to the connexion between hidden paroxysmal seizures, and paralysis, and mania. He had himself been recently asked his opinion, respecting a lady who had been found in an epileptic fit, by her husband, while lying at his side. In this lady, it was probable that many undetected seizures had previously occurred. He remembered once attending a child, in ailing health, in whom nothing very remarkable had been observed, until one morning, on entering the room where the child was in bed, he lifted the coverlet, and found it in a strong convulsion, which would, however, have been over in a few minutes unobserved, and have left no sign. He had no doubt whatever, that in many cases of children found dead in bed with their nurses, where the infant was thought to be overlain, death had been caused by a convulsion unnoticed by the nurse or mother. Dr. Barnes's question had not surprised him; no doubt it was pertinent, and he should have referred to it in his paper, but for the desire to avoid controversial points as much as possible. In his work on *Parturition*, he had given what he considered were the proofs that the coming-on of labour was caused by ovarian excitement. To these

proofs he would refer those who were interested in the subject, and which, he would say, were confirmed by subsequent observation and experience. In the case of Epilepsy and pregnancy, with remission of the fits, he did not think it extraordinary that the ovarian excitement at the time of parturition, should, in many cases, not reproduce the fits; for it was matter of observation that, after the respite of pregnancy, several catamenial periods occurred before the Epilepsy was re-established; it was only gradually that the erethismus of the nervous system, upon which Epilepsy depended, was induced. He now came to the objections urged by Dr. Henry Bennet. In saying that, in female epileptics, the fits were frequently aggravated by the catamenial periods, and that, in some cases, they were limited to these periods, appearing at no other times, he had merely repeated a remark which had been made again and again by observers of Epilepsy, and for the correctness of which he was sure he could appeal to the experience of every Fellow of the Society. But Dr. Bennet thought differently, because he had not seen Epilepsy in cases of uterine disease. Neither had he (Dr. Tyler Smith), nor had he spoken of uterine disease at all in the sense meant by Dr. Bennet. It was well known to those conversant with the physiology and pathology of the nervous system and the spinal cord, that apparently slight irritations produced graver results than more serious lesions. For instance, tickling the fauces produced vomiting, while this might not occur in deep ulceration of the throat; an indigestible meal frequently produced a fit of epilepsy, but this did not happen from cancer in the stomach; tetanus, too, arose from wounds of the thumb, but not from some of the most grave injuries of more important parts; so also, in the case of the uterus and ovaria, severe uterine disease, or malignant disease of the ovary, seldom, if ever, caused Epilepsy, while slight ovario-uterine irritation, such as could not be recognized either by touch or speculum, as, for instance, that accompanying the catamenial periods, did most certainly excite epileptic attacks. Thus the observations of Dr. Bennet did not in any way apply to the facts of the paper which had been read. Nor was there more force in his reference to the epileptics of the Salpetrière, as these cases were incurables, probably with disease of the nervous centres: they were certainly not like the cases commonly met with in private practice in this country. One other point he would refer to, namely, the question, whether or not Epilepsy succeeded Puerperal Convulsions? He had not himself seen or heard of any cases of this kind, but Dr. Routh had named two, in which, he had little doubt, cerebral effusion had occurred during the puerperal attacks, thus giving rise to centric Epilepsy. Dr. Robert Lee, whose observations were most valuable, had mentioned another case which he had considered to be of this kind, but he (Dr. Smith) had written to Dr. Marshall Hall, under whose care this patient had been placed, and, in his reply, had been informed that Dr. Hall did not consider that case as one of ordinary Puerperal Convulsion. "It occurred three weeks after delivery, and was coincident (within four-and-twenty hours) with paralysis of the left arm and leg, and 'white swelling' of the leg. I imagine that connected with phlebitis and pure cerebral Epilepsy from the beginning." Dr. Tyler Smith, in conclusion, while thanking the Society for the kind reception which had been given to his communication, and for the valuable facts which had been elicited in the course of the discussion, was gratified that the two most important points, namely, that, in the majority of cases, epileptic seizures were more rare during gestation than at other times;—and that epileptics were rarely affected with Puerperal Convulsions,—had not been questioned, but, on the contrary, had received additional confirmation. The cases he had related, would probably be published hereafter in detail, with others of great interest which he had since received, but which at that late hour he would not read to the Society, though he should have felt bound to do so, had they been at variance with those he had already cited in his paper.

December 22, 1849.

Francis Hird, Esq., President, in the Chair.

A Calcareous Concretion, the result of Tubercle, in the apex of a left lung, was exhibited by Mr. Haynes Walton. There was no other appearance of tubercle in either lung.

Cases of Hernia: with Remarks. By J. E. Erichsen, Esq. The author related four cases of Hernia, which had come under his notice during the past year. Each of them presented some peculiarities.

Case i. W. J., aged 20, was admitted into University College Hospital, in September last. He has always felt the scrotum to be larger on the left side; and nine months ago he perceived a tumour in the left groin, but had never worn a truss. On the day before admission, he had pain in the abdomen, and vomiting; for which he was treated, by a surgeon, as for Cholera. He was admitted on the 8th, when there was vomiting and abdominal tenderness. On examination, there was found to be a round, soft, fluctuating tumour in the scrotum, extending into a neck in the inguinal canal. The testis could be felt; and pain was produced by pressure on the lower and posterior part of the tumour. On his being placed in a warm bath, the swelling was somewhat diminished in size by pressure, but soon returned. As to the nature of the case, it might be acute hydrocele, or encysted hydrocele of the cord, with effusion into the tunica vaginalis; or it might be Hernia, with hydrocele in the tunica vaginalis. The last of these suppositions alone seemed admissible. The operation was proceeded with in the usual way. Half a pint of serum escaped from the tunica vaginalis, on being opened; and a knuckle of intestine was found, which, after the division of the stricture, and of some dense adhesions, was reduced. The patient had a rather severe attack of peritonitis, from which he recovered, but afterwards had to be treated for an abscess in the prostate. The points worthy of remark in this case, were: 1, the pyriform shape of the swelling; 2, its softness; 3, its partial emptying, under pressure, in the warm bath; and 4, that the testis was felt unsurrounded by bowel, which was two inches from it.

Case ii. This was a case of strangulated oblique inguinal Hernia of the right side, remarkable for the unusual situation of the stricture. The patient was aged 20, and the Hernia was said to have been congenital; the testis, however, could be felt below it. He had not worn a truss. On admission, he was labouring under symptoms of peritonitis. On operating, no fluid was found in the sac; but there was a large piece of red, congested omentum, not thickened, nor unhealthy, with a coil of intestine at the inner side. The stricture appeared to be situated at the external ring, and was divided. The attempt, however, to return the intestine was unsuccessful; nor was there any gurgling produced. On further search there was found, at a point corresponding with the internal abdominal ring, a narrow band of fibres, stretching from the omentum to the mesentery, not connected with the sac. The intestine, above this point, was much congested; below, it was natural. The cause of the strangulation was now evident. When the band was removed, the intestine passed up. The patient died of peritonitis on the following day. Mr. Erichsen remarked that, had the omentum not been held down during the operation, while the intestine was being returned, the whole would have gone back together, without relief to the patient. He considered this as a case of internal strangulation in an incarcerated Hernia.

Case iii was one of strangulated femoral Hernia on the right side, in a female, aged 45. The apparent stricture at Gimbernat's ligament was divided without success. The sac, which had not been opened, was then pulled down, and found to be constricted by a fibro-cellular band at the bottom of a deep sulcus, giving an hour-glass form to the tumour. This was divided, and the intestine readily slipped back. This was a case bearing on the ques-

tion of the subcutaneous incision of Gimbernat's ligament. It was one of those cases, where the stricture is formed by fibres on or within the sac.

Case iv was one of large hydrocele of the hernial sac. The patient had had inguinal Hernia on the right side for twenty years, which some time ago increased rapidly in size. The tumour was found elongated and pyriform ; at the upper part of it, intestine and omentum were felt, of which the former alone could be returned. Below, there was a large, soft, fluctuating tumour, of the size of a cocoa-nut, thick, and not translucent. Its upper boundary was not distinct ; posteriorly and inferiorly, the testes could be readily felt, of the natural size. There was a central horizontal construction, with Hernia above, and hydrocele below ; the latter becoming tense when the Hernia was down. Mr. Erichsen considered this to be an accumulation of fluid in the hernial sac ; and in this diagnosis the late Mr. Morton agreed. The hernia was reduced by taxis ; and, the tumour being made tense, a trocar was introduced, when about three ounces of fluid escaped. Mr. Erichsen then introduced a probe into the canula, and met with a dense membrane. This was punctured, or rather bored through, when three pints of a dark fluid escaped. The patient recovered. This was a case of very rare occurrence ; and was not to be confounded with accumulations of fluid in strangulated Herniæ, nor with cases in which there was still a connexion between the hernial sac and the abdominal cavity. In this case, the irreducible omentum formed the upper boundary of the hydrocele.

In conclusion, Mr. Erichsen remarked, that as yet, no general rule can be laid down as to the performance or non-performance of Petit's operation, by not opening the sac. The good and bad effects have to be balanced ; and, till this is done, he did not think Petit's operation will be universally adopted.

Mr. Gay thought that Petit's operation was valuable in some cases. We should operate according to the nature of the case ; and if we could do this without opening the sac, we might. He related a case in which Hernia and hydrocele co-existed : the hydrocele was tapped, and the Hernia, which had produced symptoms of strangulation, became reducible with very little trouble. The symptoms, however, continued as severe as ever, for three days, notwithstanding the use of calomel, opium, etc. Mr. Gay then cut down again, and found a dense contraction of the tunica vaginalis strangulating the Hernia, which had been congenital. The patient recovered. He thought that, in cases of Hernia which had been reducible, the operation might be performed without opening the sac ; but that, in irreducible Herniæ, it should always be opened. He thought that the coincident occurrence of strangulation at the neck of, as well as within the sac, in one of Mr. Erichsen's cases, was curious. In a case of umbilical Hernia which he had seen, it was apparently reduced, but without relief. On examination, it was found that the intestine had passed through an aperture in a portion of omentum, and had become strangulated. The patient died, being old and unhealthy.

Mr. Borlase Childs thought Mr Erichsen's second case interesting, as it presented an irregularity in the seat of the stricture. He had met with a case, in which no sign of Hernia could be discovered, except a slight fulness of the inguinal canal. When this was divided, a large knuckle of intestine was found to have been strangulated by it.

Mr. Hancock did not think Mr. Gay's division of reducible and irreducible, and the rule founded thereon, to be applicable He expressed himself unfavourable to the performance of the operation without opening the sac ; and could not see the utility of giving calomel immediately after the operation. Opium he thought valuable. He was doubtful whether Mr. Erichsen's last case was not one of simple hydrocele co-existing with Hernia.

Mr. Gay remarked, with reference to the danger of opening the sac, that

wounds of the peritoneum principally derived their danger, from the circumstance of the patient labouring under disease of some important organ.

Mr. Erichsen, in reply, said he had given calomel and opium in one case immediately after the operation, because peritonitis had already set in. He thought opium most valuable when given alone, in tranquillizing the patient. The late Mr. Liston was for some time very unsuccessful in his cases of Hernia, because he used to give a dose of sulphate of magnesia directly after the operation. He agreed with Mr. Hancock in his criticism of Mr. Gay's division of cases into reducible and irreducible; and he thought that he would perhaps rather not open the sac in irreducible Herniæ. As to the incisions in the sac causing peritonitis, he thought this often present before the operation. He thought that the rules laid down in books were rather the exceptions; and that surgeons would do well to contribute records of those cases which appeared exceptional.

MISCELLANEOUS INTELLIGENCE.

The Medical Societies of London. The Westminster Society is at present in greatest favour; as is indicated by the extraordinary increase in the number of Fellows, the overflowing attendance at the meetings, the value of the papers, and the vigour of the discussions. The number of Fellows admitted since January 1st, 1849, is about fifty, whereas the entries at the Medico-Chirurgical are only about twenty-six during the same period. This is much to be regretted, as it is only by an infusion of fresh blood that the latter institution can be reanimated. Considering the value of the Library and the Reading-room, no member of the profession can fail to be a great gainer by becoming a Fellow of the Royal Medical and Chirurgical Society. It is said that the question of amalgamation between the London Medical Society and the Westminster Medical Society has been mooted. The inconvenient situation of the former—in Bolt-court—is much complained of; but there exist legal difficulties in the way of a removal, unless the Society entirely relinquish the property. We really think that there is abundant scope for the three public societies we have named; and the sphere will be all the wider, that they remain in their present localities. We can only see a disadvantage in having the leading medical societies crowded together at the West-end, as some desire.

Therapeutics are at present a neglected branch of medicine; and were the London Medical Society to cultivate with method and earnestness this department of our science, the meetings in Bolt-court would soon be thronged, candidates for admission would abound, and a great advantage be conferred on the profession. Besides the three societies whose names we have mentioned, there exist in London many others of great importance, but of a more local character. Pre-eminent among this class, may be mentioned the Western Medical and Surgical Society, whose meetings are held in Sloane-street, where also there is, belonging to the Society, a well-stocked reading-room open daily, and an increasing library. The importance of establishing good medical libraries and reading-rooms in the different quarters of our immense capital, is so great and obvious, and some of the means by which it might be aided are so easy and inexpensive, that we intend in a future number to throw out a few hints on the subject.

Edinburgh School of Medicine. The lecturers who do not belong to the University have of late greatly diminished in numbers, but there is still a complete school, and some of the teachers are eminent. The High School Yard, Surgeon Square, Argyle Square, and Brown Square—replete with associations of student-life to thousands of our profession—are fairly abandoned by the votaries of Æsculapius, in consequence of the private lecturers having collectively erected for their use, a commodious building behind the College

of Surgeons in Nicholson Street. The precise constitution of the school is not as yet announced, but there can be no doubt of its being under the wing of the College of Surgeons. The University Medical School is not less active than its unendowed rival, having demanded (and, we hear, with the probability of obtaining) such an ascendancy in the management of the Infirmary, as will give the professors a clinical hospital, complete for medicine, surgery, and midwifery, with extra wards for such specialities as diseases of the skin, syphilis, and affections of the eye. The benefits of this arrangement, so far as medical teaching is concerned, are obvious ; and the shelving of that part of the profession in Edinburgh, who do not aspire to chairs in the University, but wish to be consulting physicians and operating surgeons, is dreaded by some, but by many is not believed to be inevitable. The *Monthly Journal of Medical Science* is in future to be more authoritatively devoted to "maintain and extend the influence which has been accorded to the Edinburgh School of Medicine"; and it is officially announced, that the work will in future be conducted by Professors Christison, Syme, Simpson, Goodsir, and Bennett; Dr. Douglas Maclagan, lecturer (extra) on Materia Medica ; and Dr. William Robertson, Physician to the Infirmary. These gentlemen have already been among the leading contributors to this valuable work. A new Quarterly Journal is announced by Messrs. Sutherland and Knox, under the editorship of Professor Goodsir, entitled *Annals of Anatomy and Physiology.* No. I. is to appear on the first of February.

Monument to Jenner. Steps are being taken to bring this subject before the profession ; and in addition to the Committee appointed by the Provincial Medical and Surgical Association, mentioned at p. 890 of our number for September 1849, a large and influential metropolitan committee has been formed, with branches in various parts of the kingdom.

Proposed New Charter of the College of Surgeons of England. We have been anxiously expecting some official explanation of the proposed alteration in the constitution of the College of Surgeons. But, beyond the general report, that members of twenty years' standing, in the possession of testimonials, and on the payment of ten guineas, would be added to the list of Fellows, no hint has reached us on this subject. It is clear, that nothing can now undo the act of the Council in office in 1843, short of an entire abandonment of the *principles* upon which the Charter was then granted. We are sincerely of opinion, that the present Council are anxious to conciliate the members at large by every means in their power, and we do not well see how they can do this more satisfactorily, than in the manner proposed. In extending the Fellowship, there must be some line drawn ; for, if all were included, it would be only substituting one name for another. Now, we think that age, coupled with respectability, as guaranteed by the signatures of six Fellows, is the best criterion which can be at present selected. There may be some hardship in requiring a fee of ten guineas ; but it would be still more hard to admit men of twenty years' standing now, without payment of a fee, after receiving ten guineas from men of even thirty years' standing and upwards, together with an examination, as has been hitherto the case. The proposed plan, if carried out, ought to be accepted as the *amende honorable ;* and if, in addition, the College of Surgeons should come forward, and by co-operating with the College of Physicians, should offer to the profession a Board of Examiners, which might form a common portal to the different departments of our art, we trust that all old grievances would be buried in oblivion, and that we should all exert ourselves in carrying out this measure. We trust that the College authorities will prevent the necessity for the formation of the projected College of General Practitioners, which can only act as a fresh element of discord in our already disorganized ranks. [Abridged from *Provincial Medical and Surgical Journal,* Dec. 26, 1849.]

APPOINTMENTS.

Allan, Dr. John, appointed Physician to the Islington Dispensary.
Brasseur, Professor, appointed Examiner in French to the Royal College of Surgeons of England.
Chambers, Dr. A., elected Physician to the Dispensary for Consumption and Diseases of the Chest, Margaret Street.
Dampier, N. J., Esq., F.R.C.S., elected Surgeon to the Islington Dispensary, in the room of J. J. Parnell, Esq., resigned.
Hale, Dr. R. J., appointed Physician to the Islington Dispensary.
Hall, C. Radclyffe, M.D., appointed Physician to the Bristol General Hospital, in the room of Dr. Beatty, resigned.
Hawkins, Cæsar H., Esq., elected one of the Examiners at the Royal College of Surgeons, in the room of the late J. G. Andrews, Esq.
Hooper, R. L., Esq., appointed Surgeon to the Queen's Prison, in the room of the late Thomas Morton, Esq.
Smith, Goldwin, Esq., M.A., appointed Examiner in Classics to the Royal College of Surgeons of England.
Stokes, G. G., Esq., M.A., appointed Examiner in Mathematics to the Royal College of Surgeons.

OBITUARY.

Birch, John Spencer, Esq., Surgeon, at Blackburn, on 25th November 1849.
Cardew, J., M.D., late Physician to the Bath General and United Hospitals, at Weymouth, on 25th November.
Carruthers, Robert, M.D., Royal Navy, at Longfleet, near Poole, Dorset, on 27th November.
Case, Thomas, Esq., Surgeon, of Runcorn, Cheshire, lately.
Cheesbrough, John, Esq., at North Egremont, Cheshire, lately.
Deas, Dr., Surgeon-Superintendent of the Neptune convict ship, at the Cape of Good Hope, lately.
Gaine, E. L. J., Esq., Surgeon, H.E.I.C.S., at Waltair, East Indies, on 20th October.
Glennie, W. R., M.D., H.E.I.C.S., formerly of Maybank, Aberdeen, at Goruckpore, on 4th October.
Gunning, Thomas, Esq., Inspector General, Army Medical Department, at Brompton Crescent, aged 74, on 30th November.
Heir, Matthew, Esq., late Surgeon to the 66th Foot, at his residence, 16, Park Walk, Chelsea, aged 73, lately.
Maling, C., Esq., Surgeon, at Abbey Holme, Cumberland, of Cholera, aged 34, on 24th November.
Mitchell, John, M.D., at Hobshill, Cruden, after a short illness, aged 55, on 22nd November.
Munro, Dr., Surgeon of H.M.S. Castor, lately.
Roberts, William, Esq., Surgeon, late of the 1st Royals, at Sydenham, Kent, aged 71, on 22nd November.
Sheffield, Edmund, Esq., Surgeon, at 12, Grove, Hackney, aged 71, on 2nd December.
Truefitt, Louis, Esq., Surgeon, at Burwood Place, Hyde Park, on 3rd December.
Whitelaw, Thomas, Esq., Surgeon, Royal Artillery, at Barbadoes.
Worthington, Charles, Esq., Surgeon, at Llangollen, aged 73, on 1st December.

BOOKS RECEIVED.

Bacc. Med. Oxon. on Stammering and its Treatment. London: 1850. Churchhill (Dr. F.) on Diseases of Children. Dublin: 1850. Flood on the Arteries. Edited by Dr. Power. Dublin: 1850. Hamilton's Essays on Syphilis, Part I. Dublin: 1849. Hull on Consumption. London: 1850. Snow on Pathology and Communication of Cholera. London: 1849. Stewart (Dr. A. P.), Sanitary Economics. London: 1849. Syme on Medical Reform. Edinburgh: 1849. Ware on the Duties and Qualifications of Physicians. Oxford: 1849. Winslow on Cholera. Traduite en Français par E. Colmache. Paris: 1849.

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ORIGINAL COMMUNICATIONS.

AN INQUIRY INTO THE CURABILITY OF PULMONARY CONSUMPTION;

WITH OBSERVATIONS ON ITS TREATMENT, AND CASES ILLUSTRATING THE EFFICACY OF COD-LIVER OIL.

By JAMES TURNBULL, M.D., Physician to the Liverpool Infirmary.

THE examination of the question, how far Consumption is a curable disease, is a subject which has scarcely received from medical men the attention it deserves, when we consider the very general prevalence of this disease, and the amount of mortality it occasions. The profession, as well as the public, have been so strongly impressed with the belief that the disease is necessarily fatal, that any one who would have maintained the opposite opinion would, until very recently, have been looked upon only in the light of a boasting pretender. Notwithstanding this, pathological investigations have shown, in the clearest manner, that recovery often does take place from this disease; and ever since the able investigations of Laennec proved that this may occur from the spontaneous efforts of nature, subsequent pathologists have been accumulating facts, proving more fully the correctness of his views and statements. Auscultation and percussion, by enabling us to separate those diseases from Consumption which most nearly resemble it, and to trace the successive steps of recovery on living individuals, have completed what was required, in order to establish the point. I believe that medical men are not generally aware of the amount of strong evidence that exists in reference to the curability of Phthisis; but I hope to bring forward in this paper a sufficient amount of facts to prove, that it admits of recovery in several ways, and that we should increase our efforts to save consumptive patients, having now, in cod-liver oil, at least one remedy which possesses an undoubted power over this destructive disease.

Let us, before entering upon this subject, inquire, as briefly as possible, what light has been thrown on the pathology of tubercle, and the changes it undergoes during absorption and transformation, by recent chemical and microscopical researches. As regards the blood itself,

from which it is an exudation or secretion, the only change of any importance which seems to have been yet discovered, is an increase in the quantity of fibrin; but this does not seem due so much to the tuberculous diathesis, as to the inflammation which accompanies the softening of tubercle. The proportion of blood corpuscles is generally below the standard of health; but Becquerel and Rodier[1] have shown that this is a change common to all chronic diseases, and much more marked in chlorosis.

Analysis of tubercle itself has shown, that it consists chiefly of albumen, with a little casein and fibrin, a considerable quantity of fat, and some extractive matters, probably the creatine and creatinine discovered by Liebig[2] in the muscles and urine. Dr. Madden thinks that the abundance of extractive matters shows, that there is either diminution of healthy excretion, or undue activity of the decomposing forces. The former he has taken as an indication for the use of means to promote the function of the excreting organs—the skin, liver, and kidneys. Crude yellow tubercle contains only about 2 per cent. of earthy salts, and 98 per cent. of animal matter; but, when it has undergone the cretaceous transformation, the proportions are reversed, the quantity of animal matter being about 3 per cent., and the remainder consisting of earthy salts, carbonate and phosphate of lime, with a little muriate of soda.

Tubercle being an exudation from the blood of a part of the liquor sanguinis, imperfectly vitalized, and therefore less highly organized than the fibrinous exudations of healthy inflammation, we naturally expect to find—what chemists have discovered in regard to its ultimate analysis—that it differs very little in composition from the proteine compounds.[3] These facts, it must be confessed, are almost negative, as regards any practical value.

Microscopical researches have thrown more light on the pathology of tubercle; and we have thus derived some information as to its primary seat, its structure, its relations to surrounding parts, and to other deposits of a healthy or morbid character. Dr. Carswell[4] thought that the air-cells were the usual seat of tubercles in the lungs; and that, whenever mucous membrane formed a part of an organ, it was either the exclusive seat, or more extensively affected than any of the other tissues. There seems to be much reason to believe, that the air-cells are the common, though not the exclusive, seat of tubercular deposit. I lately examined a specimen of crude tubercle, where it was beautifully seen filling the cells. Mr. Rainey[5] has described its appearance in the air-cells, and says, that it may sometimes be seen filling only one part of a single cell. He has endeavoured to show that the cells are not lined with mucous membrane, but the fact observed by Hassall, of the epithelium extending into them, appears to show that they are lined by this membrane. Different microscopical observers have shown that it may also be deposited in the intercellular tissue between the air-vesicles; in fact, anywhere external to the vessels; and Dr. C. J. B. Williams thinks it probable, that it may even form within the blood-vessels themselves.

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[1] Recherches sur la Composition du Sang.
[2] On the Chemistry of Food.
[3] Bennett. Northern Journal, 1846.
[4] Illustrations of the Elementary Forms of Disease.
[5] Medico-Chirurg. Trans. 1845.

Microscopical examination of tubercular matter has shown that it consists of corpuscles, which are characteristic of tubercle, and of granules and minute molecules. The corpuscles have no nuclei, and are considered to be undeveloped cells, which approach more or less nearly to the exudation or plastic cells of healthy inflammatory deposits. The miliary tubercle has some appearance of cells and fibres, but the crude yellow tubercle has no appearance of organization, and, during softening, the corpuscles swell, burst, and discharge granules. Dr. Williams's view—that lymph, tubercle, and pus, are only modifications of each other—shows how nearly tubercular deposition and inflammation must approach each other; and pathologists seem now agreed that they are closely allied processes, both being modified states of nutrition. Growth, nutrition, inflammation, and scrofulous diseases, are, observes Dr. Addison, analogous phenomena.

Besides the objects already described, there are also seen in tubercles the filamentous remains of the air-cells, fat globules, which increase in quantity as the softening takes place, pus, and other exudation products of inflammation, epithelium cells; and in cretaceous tubercles, large dark particles, and crystals of cholesterine.

Of these facts, furnished by microscopical examination, perhaps the most important, in reference to our present inquiry, is that of the tubercular corpuscles being most nearly allied to the fully developed cells of healthy inflammatory products, from which they appear to recede, and assume more of a granular aspect, in proportion as they become yellow and cheesy, or soften. "The miliary tubercle", Dr. C. J. B. Williams observes,[1] "differs from fibrin, not in kind, but in degree, of vitality and capacity of organization"; and this proves to us what experience had previously taught—the importance of removing the complication of inflammation or congestion of the lungs, in the prevention, as well as treatment, of phthisis.

In examining the *pathological facts* bearing upon the question of curability, I will first call attention to the circumstance, that many medical men, seeing their patients frequently die of phthisis, have become so incredulous of the possibility of recovery, that when they have seen a patient recover after having presented the usual symptoms, they have distrusted their diagnosis, and have taken the fact of recovery as a sufficient proof that the disease could not have been tubercular Consumption. Pathological investigations show that such is a most erroneous mode of forming an opinion, and prove also, that many persons, who have never had more than a moderate amount of pectoral symptoms, must have recovered from this disease. Laennec, in a chapter in his work, entitled, *Examen de cette question: la guérison de la phthisie est-elle possible?* had the merit of first proving that phthisical persons may recover, by the cretaceous transformation of tubercular matter, as well as by the cicatrization of cavities. He investigated the subject very fully, and detailed ten cases, in three of which the healing of cavities was traced by the stethoscope, and recovery took place after all the worst symptoms had supervened. In seven other cases, where the

[1] Williams, C. J. B., M.D. Principles of Medicine, p. 386.

patients were phthisical, but died of other diseases, he ascertained how recovery might take place by absorption of crude tubercles, and transformation into cretaceous or calcareous concretions; or by the softening and evacuation of tubercular matter, and the lining of the cavity so formed by a false membrane of cellular fibrous or cartilaginous texture, and also the complete disappearance of the cavity by the formation of a cicatrix. These facts were confirmed by Andral; and even Louis, who does not take by any means a favourable view of the curability of phthisis, and is more sceptical than most men as to any good effect from medical treatment, relates three cases of recovery; one in a man, 45 years of age, who, after presenting all the usual symptoms, as well as the physical signs, and keeping his bed for six months, recovered, and returned to his occupation; the second, in a man, 50 years of age, who had cavernous respiration and pectoriloquy; and the third, in a gentleman of rank, who consulted him several times, during a period of eight years, for trifling attacks of acute pulmonary catarrh, and afterwards died of a painful affection of the urinary passages. It was then discovered that he had a cavity at the summit of the right lung, and near to it two tubercles. This patient enjoyed robust health, with the exception of being subject to attacks of cold, and would probably have continued to do so, but for the other disease of which he died.

M. Rogée, in an able paper on the Curability of Phthisis, in the *Archives Générales de Médecine* for 1839, has proved in the clearest manner, that the *chalky*, as well as the *calcareous concretions*, resembling small stones, which are so often found in the lungs, are the result of the transformation of tubercle. There are many facts which prove this; the situation of these concretions, generally at the summit of the lung, sometimes in the midst of a group of tubercles, and often in a cavity from which the greater part of the tubercular matter has been evacuated. Tubercles are also sometimes found evidently undergoing this transformation, presenting the appearance of having become smaller, and being more opaque and whiter than other deposits in the same, or in the other lung. If further proof were wanted, it might be found in the fact, that crude tubercle, when dried, assumes a chalky appearance, similar to that of these concretions. I had last summer an opportunity of seeing tubercular matter in great quantity in every stage of transformation, in a woman who died in the Liverpool Infirmary of tubercular peritonitis. The abdominal cavity contained a very large quantity of a matter like mortar, and the mesenteric glands exhibited almost every form of tubercular disease, some being in the state of crude, cheesy tubercle, and others undergoing transformation. The liver was also fatty in this case; a fact tending to show that the fatty degeneration of the liver, which so often occurs in Pulmonary Consumption, cannot be ascribed to the function of respiration being interfered with, but that it bears a relation to tubercular disease generally, and is most frequently found in Pulmonary Consumption, only because the lungs are the organs in which tubercles are oftenest deposited in abundance.

It was at one time regarded as doubtful, whether tubercles could be absorbed; and Andral[1] noticed the wrinkled appearance which they sometimes assume, as showing the possibility of their being thus removed.

[1] Précis d'Anatomie Pathologique, tom. iii, p. 545.

On this point there cannot now be any doubt, but the conditions which favour absorption require further investigation. The miliary granulations, which Laennec considered the first stage of tubercle, and in which opinion he has been confirmed by Louis, are believed by Rokitansky to be, in many cases, merely a kind of fibrin. He considers that this form or stage of tubercle may undergo a kind of metamorphosis, which he calls *obsolescence*. "After the tubercle has passed through its condition of crudity, it loses its shining appearance and increases in density, becomes converted into a small hard lump, and then shrinks into a tough amorphous or slightly horny mass-cornification. It forms the basis of a complete destruction or death of the tubercle, and no further metamorphosis can take place."[1]

The softening of tubercle, Dr. Williams thinks, is promoted either by a deficient supply of blood, which does not maintain its imperfect vitality, or by an undue flow or accumulation of it exalting chemical affinities in a material which has no vital power of resistance.

When crude tubercle undergoes the cretaceous transformation, the animal matter must be removed by the vessels absorbing it; but the quantity of earthy matter is so much greater than what is contained in crude tubercle, that there must be a secretion of earthy salts at the same time, and this sometimes appears to take place into empty cavities also. Dr. Hughes Bennett considers the tendency of tubercular matter to disintegrate as highly favourable to absorption, if fresh deposits could be prevented; and Rokitansky observes, in reference to cretifaction, that it occurs as a secondary change, never attacking tubercle in its original form, but confining itself to the dissolving and dissolved blastema. It is easy to conceive that, when the corpuscles of tubercle have broken down into the granular state, they must be more within the absorbent power of the vessels; but the fact of the yellow crude tubercle being sometimes observed undergoing cretaceous change without softening, would seem to show, that it is at least not necessary that it should undergo such a degree of disintegration as that which immediately precedes the evacuation of tubercular matter. It is worthy, however, of remark, that transformation commences, as softening has usually been observed to do, at the centre of tubercles; and Dr. Valleix[2] has observed, that we sometimes find a tubercle having a hard calcareous concretion at the centre, round this cretaceous matter, and at the circumference a layer of tubercular matter. Boudet affirms, that transformation may take place in all the phases of their evolution.[3]

Such are some of the chief facts relating to the curability of Consumption by absorption and transformation of tubercle; but pathological researches furnish us with further evidence of the possibility of recovery in a more advanced stage, in the discovery of cicatrices produced by the healing of cavities at the summit of the lungs. Rogée has described four kinds,—those with persistence of the cavity; those in which the cavity contains some chalky or calcareous matter; those cicatrices which are fibro-cartilaginous; and those of cellular structure. There is usually some depression, or puckering, of the summit of the lung, where these

[1] British and Foreign Medico-Chirurgical Review, vol. i, 1848.
[2] De la Curabilité de la Phthisie pulmonaire, *Archives Générales de Médecine*, 1841.
[3] Recherches sur les transformations des tubercles: Comptes Rendus, 1843.

cicatrices are discovered, and the surrounding pulmonary tissue is often of a dark colour and indurated. These appearances may be regarded as some evidence of the former extent of the disease. Dr. Carswell has observed, that there may remain only a small globular oval or even linear portion of fibrous or fibro-cartilaginous tissue in a portion of the lung, where, from the extensive puckering around it, there must formerly have existed an evacuation of considerable extent. The healing of cavities has been observed in every stage; and it would seem, that the disease may be arrested, or at least become quiescent, even after it has produced great disorganization of the lungs, of which we have a remarkable example in a case related by Dr. Kingston.[1]

There are few medical men, who are in the habit of observing the *post-mortem* appearances in the lungs, who have not had opportunities of seeing cretaceous tubercles, and even the less frequent appearance of cicatrices and puckerings at the summit of these organs. The facts, indeed, are so palpable, that they have never been disputed; but they have been looked upon rather as rare and curious examples of what nature can do where art has failed, than as important practical facts, which should lead us to observe carefully the favourable circumstances under which the changes are brought about, with the view of arriving at a more successful method of treatment.

These appearances are not, however, by any means rare, indeed they are very common. Rogée found that of one hundred aged persons, who died at the Salpêtrière, there were fifty-one of this number who had concretions and other traces of tubercular disease of the lungs. In five of the cases he also found the cicatrices of the cavities which had healed; and he states, that in the course of a single year, he had been able to collect ten or twelve incontrovertible examples of the same kind. "J'insiste sur ce fait de fréquence, car c'est là que gît, à mes yeux, le point capital, le côté nouveau de la question. Les médecins instruits d'aujourd'hui ne nient guère qu'on ait vu *quelquefois* la phthisie guérir; mais pour eux cela tient du miracle tant c'est rare: ils n'osent jamais l'espérer. Puisse-je avoir réussi à convaincre que la guérison est assez commune quand la maladie n'est pas fort avancée, et qu'on a droit de la chercher avec espoir."[2] In 197 subjects, Boudet found ten with cavities completely healed; and within one year, he also collected fourteen cases of recovery from phthisis.

Dr. Hughes Bennett[3] also found in seventy-three bodies which he examined, that there were concretions and puckerings in twenty-eight. He also ascertained that these traces of the removal of tubercles are most common in elderly persons; for, in the twenty-eight cases, he found puckerings and concretions in only three individuals of the age of eighteen, in six between that age and forty, and in nineteen after that epoch of life. Dr. Stokes, when he published his work, was strongly in favour of the view, that patients sometimes recovered from phthisis; and he laid down the favourable indications, which he considered to justify the medical man in attempting what he called the curative treat-

[1] Medico-Chirurg. Trans., vol. xx, 1837.

[2] Essai sur la Curabilité de la Phthisie pulmonaire, etc. *Archives Générales de Médecine*, 1839,

[3] Bennett (J. Hughes, M.D.), Frequent and Spontaneous Cure of Pulmonary Consumption. *Edinburgh Med. and Surg. Journal*, 1845.

ment. Dr. Williams has also argued in support of the curability of phthisis, and has stated that he found phthisical lesions in the lungs of half the adults beyond the age of forty that he had examined, and that nature resists the progress, and limits and circumscribes the extent of the disease. I shall also have occasion to allude to the valuable facts of a much stronger nature, which he has since published, in reference to the efficacy of cod-liver oil.

These pathological observations are, as Louis has remarked, "assuredly of immense importance", and they form a body of facts which do not admit of being controverted. But it may be said, that the disease had in such cases been of only limited extent, and had not presented the ordinary symptoms, but been latent. A sufficient number of cases have, however, now been accurately observed during their course, and up to complete recovery, to disprove such a statement. Consumption is a disease, the diagnosis of which is more difficult than that of most others; and, though stethoscopic examination has assisted pathological investigations, more especially in demonstrating the occurrence of recovery by the healing of cavities, yet we know that in the earliest stage, when we have reason to suppose that tubercles admit most readily of being removed, neither the symptoms nor the stethoscopic signs furnish us always with undoubted evidence of their existence; and hence some doubt must often hang over the precise nature of such cases. There is reason therefore to believe, that much evidence of the curability of Consumption, which we would possess, were it not for the difficulty of diagnosis in the earliest period, is in this way entirely lost. The number of cases in which the cretaceous transformation of tubercles has been found, so far exceeds those in which cicatrices have been discovered, that this is proved not to be a mere speculative assumption; and we can scarcely therefore avoid the conclusion, that many, who have suffered to a moderate extent from cough and other pulmonary symptoms, have really recovered from the early symptoms of consumption.

The limits of this paper prevent me from entering into an examination of the *symptoms* and *physical signs* of the early stage, for the purpose of proving this more fully, and of showing what diseases we are apt to confound with it. There are, however, one or two important points which I shall briefly notice. The symptoms furnished directly by the condition of the lungs themselves in phthisis, are, cough, expectoration of different kinds of sputa, shortness of breath, pain, and hæmoptysis. Now all of these symptoms, with the exception of the last, derive their value and signification entirely from their combination with other symptoms, and with physical signs. It is otherwise, however, with hæmoptysis, which is alone the most certain of all the symptoms of tubercle in the lungs, provided the patient has not received any injury of the chest, is free from disease of the heart, and, if a female, is not suffering from sudden suppression of menstruation Yet it very often happens that we see patients recover, and enjoy a fair share of health, after having had cough and hæmoptysis.[1] Of the symptoms arising from disorder of other functions than that of the lungs, the most important are hectic fever, perspirations, emaciation, and diarrhœa.

[1] Louis, (P. C. A., M.D.) Researches on Phthisis, p. 169.

These also derive much of their value and signification from being combined with some of the preceding. Perspirations are very rarely absent during the course of this disease; and I believe that loss of flesh always occurs, to a greater or less extent, when tubercles are in an active state. We may observe, then, that cough of some standing, night-sweats, and loss of flesh, constitute a group of symptoms which, in the majority of cases, indicate the presence of tubercular disease; and, if to these we can add hæmoptysis, we combine those symptoms which afford the most certain evidence of the presence of tubercular disease of the lungs.

Examination of the chest with the stethoscope has furnished the counterpart of some of the proofs of the curability of Consumption, which have been derived from pathology, more especially in reference to the healing of cavities; and it often enables us to discover the disease, long before it can be detected by symptoms alone. It is, however, a well-ascertained fact, that tubercle must be deposited to a considerable extent, before it can be discovered by the signs which it occasions directly by its own presence, such as dulness; and it often happens that, before it gives any decided evidence of its presence by producing consolidation, the local irritation it has excited may occasion crepitation, or sibilant, or other rhonchi. Now it has been shown by Louis (see his observations on case 56), and others, that when these signs of bronchitis or pneumonia are confined to the apex of one lung, they indicate, with great certainty, the presence of tubercles. I have seen several cases, in which the signs of bronchitis (sibilant and mucous rhonchi, with a scarcely appreciable amount of dulness), were thus confined to the summit of one lung, and where recovery took place. Such cases, I think, I have been justified in regarding as recoveries from the early stage of phthisis.

If the facts and arguments which I have now advanced to prove the curability of Consumption, have appeared wanting in sufficient foundation, I would now refer, in confirmation of these views, to the valuable *statistical proofs* furnished by the able Report of the Hospital for Consumption.[1] The Report shows, as we might expect, that the most favourable results have been obtained in the first stage; and of 187 cases in this stage, it appears that seventy-five, or nearly one half, were much relieved. In eighteen cases, or more than ten per cent., the disease was arrested; and the term arrest is defined as implying that all, or nearly all, the symptoms of the disease had disappeared, the patients feeling themselves well, and being able to pursue their ordinary occupations. The report also states, that in some of these, the evidence of local mischief had greatly diminished, and in a few had disappeared; such patients being, in fact, scarcely in a worse position than they were before the attack. Of fifty-three cases in the second stage, the disease was arrested in two. Of 295 cases in the third stage, it was arrested in ten cases. The Report observes: "Viewing these results collectively, without reference to age or sex, we find that benefit is conferred in 36 per cent. of the cases, material relief in nearly 25 per cent.; in nearly 6 per cent. the disease is arrested; and here it should be borne in mind, that the delay which occurs in the admission of patients,

[1] First Medical Report of the Hospital for Consumption, 1849. An analysis of this Report was given at page 37 of our last number.

in consequence of the want of accommodation for the numbers who apply, allows the disease to advance, and thus renders the treatment more difficult and less successful than it would otherwise have been. Still, under such unfavourable circumstances, it is satisfactory to find, that in nearly 6 per cent. of the cases of this disease, considered by many to be beyond the reach of treatment, a result has been obtained, which a desire not to speak too confidently alone forbids to designate as cure." When I speak of treatment, I shall have occasion to show that still more favourable results were obtained in those cases where cod-liver oil was used; but the facts advanced in the preceding inquiry, and the statistical proofs now adduced, justify me in stating, that a close examination of this disease proves that it is not, as has been generally believed, utterly hopeless and incurable—a view which would paralyse all our efforts at treatment. Whilst, therefore, " we must pause, ere we in future pass the terrible sentence of no hope on the consumptive invalid",[1] it becomes also our duty to redouble our efforts to save such patients.

ANTAGONISTIC DISEASES.

The investigation of the favourable circumstances under which spontaneous recovery takes place, has scarcely received the attention it deserves.[2] There are, however, a few facts in reference to antagonistic diseases, which bear upon this point, and to which I must allude before entering upon the treatment.

Emphysema of the lungs is a disease which undoubtedly tends to prevent the development of tubercles, and a moderate degree of it must therefore favour recovery from Consumption. I have seen some cases which have convinced me of this; and the researches of Rokitansky and Hasse confirm what I have observed.

A gentleman, aged 38, who was of rather weak constitution, and had suffered slightly for a considerable time from cough and shortness of breath, became much worse in the end of September 1847, and soon after consulted me, with the usual symptoms of Consumption. He had very troublesome cough, with muco-purulent expectoration. He had become very thin and weak, and had also profuse perspirations at night; and to these symptoms was afterwards added hæmoptysis. There was increased clearness of sound on percussion; but this affecting the summit of the lungs chiefly, rendered it difficult to ascertain, by physical examination, to what extent tubercles might be deposited, though the symptoms left no doubt as to their presence. He had persistent pain in the left side of the chest, rather low down, and just below the level of the left nipple; where there were, while the spitting of blood lasted, a few bubbles of mucous rhonchus, indicating that this was the seat of the disease. Having observed the antagonistic effect of emphysema in other cases, I ventured, notwithstanding the apparently hopeless character of the symptoms to hold out some prospect of recovery. The spitting of blood was stopped by means of turpentine; and counter-irritation, by croton-oil liniment, and the use of sedatives, with expectorants, relieved

[1] Williams (C. J, B., M.D.) Cod-liver Oil in Consumption. London Journal of Medicine, January 1849.

[2] Bacon. " Homo naturæ minister et interpres tantum facit et intelligit quantum de naturæ ordine re vel mente observaverit, nec amplius scit aut potest."

the cough and difficulty of breathing, so that he was enabled to go to the country for change of air, and to take tonics. He returned in December, much improved; and though he has seldom been long free from cough altogether, yet he has enjoyed a fair share of health, considering that he has emphysema of the lungs, along with tubercles. He had some return of hæmoptysis at the beginning of this winter, after which he took cod-liver oil with much benefit.

In this case, I have no doubt that emphysema was a chief cause of preventing, and still continues to repress, the progress of the tubercular disease. I had also in the two following cases, where the patients died of another disease—inflammation of the lungs—an opportunity of observing the power of the same cause in retarding the advance of tubercular disease.

A seaman, aged 40, of muscular frame, was admitted under my care into the Northern Hospital, in a very advanced stage of inflammation of the lungs. It was ascertained that the acute attack was of recent occurrence, but that he had suffered from cough, more or less, for two years. He died the same evening; and, on examination, it was found that both lungs were emphysematous. The upper part of the left lung was highly so, and it was also very much puckered from an old cicatrix. Within this part a cavity was found, which was completely lined with a false membrane, and in progress of healing. Around this, and in other parts of the lung, there were tubercles, which seemed to have been deposited at different times, as some of them were small miliary tubercles, and others larger and hard, as if undergoing cretaceous transformation. The right lung was inflamed throughout; and, at the lower part, it was in a state of purulent infiltration, and at the summit, in a state of red hepatization. There were some tubercles in this lung also, and at the apex, a cavity lined with false membrane. The disease was evidently not in a progressive state in this case; this being proved by the dryness and hardness of the tubercles, one of which was as large as a nut, and by the lining of the cavities by a well-organized membrane. Nature was therefore evidently making an effort to repair the ravages of the disease; and we have seen that this coincided with a great amount of emphysema.

A man, aged 26, was admitted into the Infirmary last September, in a similarly advanced stage of pneumonia. On examination, it was found that there was intense bronchitis and lobular pneumonia affecting both lungs. There were tubercles in both lungs, and much emphysema. At the apex of the left, a cavity of considerable size was found, lined by a fine membrane, like that of the bronchial tubes, and there were two others, lined with a thick white membrane of a soft texture. The tubercular disease was evidently making but slow progress in this case also. (See also Laennec, *Emphysema*, Obs. VIII.)

Hasse observes, that "those much in the habit of examining the dead body, cannot but be struck with two circumstances: first, the almost invariable existence of emphysema in lungs which bear the characteristic marks of recovery from phthisis; and, secondly, the proportional rareness of tubercular deposits in emphysematous lungs. This would seem to show, that dilatation of the air-cells constitutes one of the conditions, under which the cure of phthisis is possible; and, again, that

it forms an obstacle to the development and progress of tubercle."[1] Rokitansky thinks that emphysema hinders the formation of tubercle, by inducing a state of venosity of the blood, in which it is imperfectly arterialized, and wanting in fibrin. To the same cause he attributes the rare occurrence of tubercle in those cases of disease of the heart and arteries which prevent the proper arterialization of the blood. His observations on the connexion of tubercle with other morbid states are of the deepest interest; and, if his explanation of the effect of emphysema and disease of the heart, in repressing the deposition of tubercle, were correct, we should see an object which we might seek directly to attain in treating tubercular diseases. I am, however, disposed to think that emphysema may have merely a local effect in preventing the formation of tubercle; for the quantity of blood circulating in the capillaries of an emphysematous portion of lung is much diminished, and hence we find that pneumonia is less apt to attack such parts. We have already alluded to Dr. C. J. B. Williams's opinion, that an undue flow or accumulation of blood, from congestion or inflammation, will hasten the maturation of tubercles, by exalting chemical affinities; while, on the other hand, they manifest little disposition to change, so long as they are kept free from superfluous moisture. In this way, emphysema may prevent their progress, by lessening the quantity of blood in the capillaries; and it is also worthy of observation, as supporting this view, that in some cases of phthisis, where the function of one lung has been arrested by perforation, the progress of the disease has (where the patient has recovered from the immediate effects of the accident) been for a considerable time arrested. Of this, some examples have been given by Dr. Stokes. If Rokitansky's view of the venosity of the blood retarding the advance of tubercles were correct, we should find the progress of the disease equally repressed in both lungs; but I believe that this occurs chiefly in that lung, the function of which is arrested; and indeed, if this were the true explanation, then tubercular deposition in the lungs, by impeding respiration, and thus causing a more venous state of the blood, should tend to arrest its own development.

The arrest of the development of tubercular disease of the lungs during pregnancy, is an important fact, and there are few medical men who have not had opportunities of observing it. About two years ago, I had under my care a young female, advanced towards the fourth month of pregnancy, in whom one lung was destroyed to nearly half its extent by cavities. She had obstinate diarrhœa, and was reduced to the last stage of emaciation and debility. Yet, as soon as she was made aware of being pregnant, it had such a cheering effect upon her, that she speedily began to recover, believing that all her illness arose from that cause; and thus the disease was arrested for a time. Rokitansky's mode of accounting for the antagonistic effect of pregnancy in Consumption, by referring it to the venosity of the blood, induced by the enlargement of the abdomen interfering with respiration, is too mechanical an explanation, and not at all satisfactory, as it is by no means proved that the blood is imperfectly arterialized during pregnancy. The demand for an increased supply of blood for the uterus and its contents, is a

[1] Hasse (C. E., M.D.) Anatomical Description of the Diseases of the Organs of Circulation and Respiration. Translated by W. E. Swaine, M.D. Sydenham Society. 1846. p. 313.

much more important change, through which we may endeavour to explain the arrest of the tubercular disease. It is a fact, that the blood, instead of becoming more venous, contains an augmented proportion of fibrin; and the growth of the fœtus seems not only to require this, but, by attracting it to itself from the lungs, to arrest the morbid process of nutrition in these organs.

There are some other diseases which are believed to be antagonistic to phthisis. Thus, Consumption is not common in situations where ague prevails. Rokitansky also thinks that bronchocele and rachitis prevent tubercular disease of the lungs.

TREATMENT OF CONSUMPTION.

The limits of this paper prevent me from entering into any extended observations on the treatment of this disease; and, as my chief object has been to prove that persons more frequently recover from Consumption than has been generally supposed, I shall confine my remarks, as much as possible, to an examination of those means which have been thought to have some power in promoting the absorption of tubercle, and I shall speak more particularly of the efficacy of cod-liver oil. There are, however, a few important *indications* which I shall first notice as briefly as possible.

Whatever may be the condition of the blood and of the capillary vessels, which determines the exudation or secretion of tubercular matter, there cannot be any doubt that debilitating causes, such as innutritious food, deficient exercise, and impure air, have a powerful influence in producing this disease. The researches which have been made in the present day in chemistry and physiology, have tended more and more to prove the connexion between deranged assimilation and many diseases; and in struma, Dr. Prout has observed that all the assimilating processes are at fault, but chiefly those which take place between the duodenum and the circulating system, and by which the chyle is converted into blood. It is also well worthy of notice, that tubercles may be produced in some of the lower animals by confining them in damp places, and feeding them on unwholesome food. This was done with rabbits by Drs. Baron and Jenner,[1] and by Dr. Carswell; and it is a fact of some importance, as well in reference to the curability of tubercular diseases by absorption, as in showing the power of good alimentation, that the tubercular disease has been removed by feeding them afterwards on more nutritious food. In some kinds of insects, too, it has been found that a tubercular deposit may be produced by feeding them on bad food, and repeatedly plunging them in cold water. The same influences operate on man; for Dr. Baly[2] has shown, that mental depression and confinement cause a remarkable increase in the mortality among the inmates of prisons, and that this is chiefly produced by Consumption and scrofula. Such facts show us the importance of hygienic means of treatment; and, viewed in connexion with the power of cod-liver oil in promoting the assimilation of the food, they prove to us forcibly the necessity of bringing the digestive organs into as healthy a state as possible, in order to effect the most perfect assimilation of light nutritious articles of diet.

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[1] Baron on Tubercular Diseases. [2] Medico-Chirurg. Trans. vol. xxviii, 1845.

We have already shown, that inflammation and tubercular deposition are allied processes; and the effect of local irritation, in producing Pulmonary Consumption, is exemplified in the frequency of the disease in persons whose occupations cause them to inhale silicious or metallic particles; and I have no doubt that the fact, noticed by Phillips, of Consumption being most prevalent in towns, and scrofula less so, while the reverse occurs in the country, arises, not, as he supposes, from any difference between these diseases, but, in a great measure, from the inhalation of particles of dust and smoke determining the deposition of tubercular matter in the lungs instead of the external parts. In all our efforts to cause the absorption of tubercles, it must, therefore, be a matter of primary importance to prevent irritation, and to remove inflammation or congestion of the lungs by the usual means—local depletion, and counter-irritation more especially. The action of all the depurating organs which purify the blood by removing from it the products of the worn-out tissues, should be promoted by the appropriate means; and, with the view of preventing catarrhal irritation at the earliest period, I believe that there is no means so effectual as washing the whole surface with tepid or cold salt and water, followed by friction, which excites the depurating function of the skin, fortifies it against the impression of cold, and acts as a general tonic.

The condition of the blood, as ascertained by Andral, and subsequently by Becquerel and Rodier, furnishes another important indication in the treatment of phthisis, and one which has been found practically useful. In the earliest stage, and perhaps in some cases also before the formation of tubercles, the proportion of globules is below the healthy standard: as the disease progresses the quantity falls; and in one case, Andral found the proportion as low as 72 parts in 1000 of blood. In this respect, Consumption bears a resemblance to chlorosis, and in the diminution of the red globules, we have, in the one disease as well as the other, an indication for the employment of chalybeate tonics. I may here observe that, though we have this diminution of the red globules, we are seldom able to discover a loud continuous murmur in the veins of the neck, which is so common a sign in chlorosis; This difference I account for, from there being in chlorosis not simply a diminution of the red globules, but also an increase of the aqueous part of the blood. The veins are thus kept in a state of tension, which is favourable to the production of the venous murmur. In Consumption, on the other hand, especially when the disease is in an active state, there is a diminution not merely of the globules, but of the whole quantity of blood in the system, which, with the relaxed state of the tissues arising from loss of flesh, prevent the degree of venous tension necessary for the full development of this murmur. When, however, the tubercular disease has become quiescent or has receded, I have sometimes observed the occurrence of a continuous murmur in cases where it had at first been absent; and this I have considered a favourable sign.

In the preceding part of the paper, we have endeavoured to show that there are three ways in which recovery from Consumption may take place; first, by the shrivelling of miliary tubercles; secondly, by the transformation of crude yellow tubercles into cretaceous or cal-

careous concretions; thirdly, by the healing of cavities. We have now, fourthly, to show that the results of treatment seem to prove that tubercles may be removed by absorption. We cannot, however, have ocular proof of this, and hence there has been doubt as to the possibility of the removal of tubercles in this way; but the facts I have still to adduce will tend still further to remove any doubt on this point.

The remedies which, I think, have most claim to our attention as agents capable of promoting changes in tubercular matter, are *mercury*, *iodine*, the *alkalis*, and *cod liver oil*.

As *mercury* is unquestionably the most powerful remedy we possess, for promoting absorption of the serous and fibrinous exudations of acute inflammation, we would naturally expect that it should have some power in causing absorption of tuberculous deposits; but it would seem that in proportion as they recede from and lose the characters of plastic organizable fibrin, they are less under the sorbefacient influence of this remedy; and in ordinary cases of Consumption, not distinctly produced by acute inflammation, mercury, though occasionally useful as an alterative, to promote the biliary and other secretions, is injurious when given so as to act upon the constitution—producing a debilitating effect, and hastening the softening of tubercles. In cases of chronic pneumonia, which hold an intermediate place between pneumonia and phthisis, I have employed the remedy in the latter way; and, if we had reason to believe that miliary tubercles existed in an early stage, I think we might be justified in using this remedy, with the view of promoting the mode of transformation described by Rokitansky. The local application of mercury is a powerful means of causing the absorption of indurated swellings, as, for example, of the joints; and, as we are now able in many cases to arrest the constitutional disease in Consumption, it becomes us to use every means likely to assist in the removal of the local disease also; and none appears likely to be of more service than mercurial inunction. Dr C. J. B. Williams says, that he has successfully treated several cases, in which the signs and symptoms left him in no doubt as to the existence of tuberculous peritonitis, by ointment of iodide of mercury to the abdomen, together with iodide of potassium internally.

The preparations of *iodine* have some resemblance to mercury in their effects, but, unlike this remedy, they are not of any service in acute disease, but are more useful in causing the absorption of tubercular deposits, especially in glandular structures. The syrup of the iodide of iron is the preparation I have most frequently used, as it combines the absorbent properties of iodine with the tonic power of iron, and thus fulfils the indication in reference to the diminution of the globules of the blood. I regard it as one of the best tonics we can use in the early stage of the disease, and I think that I have seen the early symptoms of phthisis arrested by it in a few cases. It was, during last summer, the chief means of restoring to health a young gentleman, who, in addition to cough, and loss of flesh and strength, presented the signs of incipient tubercular deposit at the summit of the left lung—very slight dulness with some sibilant rhonchus. I prescribed it with very good effect in the case of a lady about thirty years of age, who came from some distance in the country to consult me, in July 1847. She had become thin and very liable to colds, and had some mucous expectoration. She had also

had an attack of spitting of blood three years previous. Some consolidation at the upper part of the right lung was indicated by slight but distinct dulness on percussion close to the sternum, and increased loudness of the cough and voice in the same spot; but there were no mucous or other rhonchi. She wished to remove to the South of England; but as the disease did not seem in an active state, I recommended hygienic means of treatment, to improve the general health. I also ordered syrup of the iodide of iron, with tincture of hyoscyamus in infusion of calumba, and inunction of iodide of lead ointment below the right clavicle. When I again saw her, five or six weeks after, I found her improved in health; and the signs of consolidation appeared, both to her ordinary medical man and myself, to have diminished considerably. She has since then enjoyed pretty good health, and has had two children, but during last pregnancy there was some return of hæmoptysis. After this, she took cod-liver oil for a considerable time, with benefit. The iodide of lead ointment I have used in other cases besides this, with the view of causing absorption of tubercular deposits in the lungs, on the same principle on which we use it in scrofulous glandular swellings. I think it better suited to produce such an effect than the application of a concentrated tincture of iodine, which is a powerful counter-irritant, and, as such, has been found "remarkably beneficial" at the Hospital for Consumption.

Before the introduction of iodine, the *alkalis* were regarded as remedies of considerable absorbent power. Liquor potassæ is a powerful alterative medicine, and it has sometimes been found to cause absorption of an enlarged gland even after iodine has failed. Dr. Campbell recommended it very strongly in phthisis; and Sir J. Clarke has observed, that the alkalis increase the urinary, and appear to promote the bilious secretion, and to render that of the mucous membranes more fluid: in whatever way they operate, they are certainly beneficial in many tuberculous affections.[1] Their power of promoting absorption of the lymph and other exudation products of inflammation of the lungs or pleura, especially when combined with iodine, is a fact of acknowledged practical value. Dr. Golding Bird[2] has communicated some most interesting and useful information as to the action of alkaline remedies; he calls them depurating or chemical diuretics, and has shown that, unlike most diuretics, they increase not only the fluid, but also the solid parts of the urine. This they do by a chemical action on the exhausted and worn-out tissues; and he thinks that parts of low vitality, such as tubercle, will be most readily acted on by these chemical agents. It is also worthy of notice, that the caustic alkalis are the most powerful solvents of tubercle; and it is therefore reasonable to suppose that they will retain a portion of that power, when circulating with the blood in the capillaries.

Cod-liver oil has been known as a remedy for Consumption and scrofula in Germany and the north of Europe for a considerable period, and Dr. Hughes Bennett[1] has the merit of having brought it into notice in this country. Of the three kinds of oil, the pale, the light brown, and the

[1] Treatise on Pulmonary Consumption.
[2] Lectures on the Influence of Researches in Organic Chemistry on Therapeutics.
[3] Treatise on the Oleum Jecoris Aselli. 1841.

brown, it has been thought in Germany that the darkest coloured is the most useful; and this opinion was supported by Dr. Bennett, and is still maintained by Dr. De Jongh. It seems, however, to be now sufficiently well ascertained, that the brown has no superiority over the pale oil. I have seen the best effects speedily produced by the purest specimens of pale oil. Dr. Williams used the pale oil prepared according to Donovan's method; and in the report of the Hospital for Consumption, it is stated that "different qualities of oil, have been tried without exhibiting any marked difference in the remedial effects; but the offensiveness of some of the darker kinds renders their general use impracticable."

The power of this remedy in controlling the progress of phthisis in a large proportion of cases, and even of arresting its progress in not a few, has now been completely established; and the Hospital for Consumption has even furnished us with statistical facts as to the results of treatment in each stage of the disease.

In Dr. Bennett's work, we are furnished with three cases, fully detailed, of decided Consumption, where recovery took place under the use of this remedy. In the appendix to the last edition, he says: "I have succeeded, in several cases, in ascertaining that the caverns have completely healed up, every symptom and physical sign indicating their presence has disappeared, and there has remained only slight dulness on percussion, and increased vocal resonance, as a proof of the puckering and induration of the pulmonary parenchyma attendant on the cicatrix." In proof of this statement, he relates two other cases. The most favourable account that has yet been given of the efficacy of cod-liver oil, is that published in this Journal by Dr. C. J. B. Williams, who states that of 234 cases of which he kept a record, there were no fewer than 206 in which its use was followed by marked and unequivocal improvement. The most numerous examples of decided and lasting improvement occurred in those cases in the second stage, where the tubercular matter was beginning to soften. He has given a full account of eleven cases in the third stage, the results of which may be stated as follows. In one case, a cavity seemed to have healed completely; in five, all the symptoms were removed and recovery took place, but dry cavities remained in the lungs; in one, it seemed probable that the restoration was even more complete; in one case, that of a child, recovery took place, but the existence of phthisis was somewhat doubtful; in one, the advance of the disease was stayed; in one, the patient recovered so far as to marry, but relapsed; and in one, after temporary recovery, the patient died.

From the report of the Hospital for Consumption, it appears, that this remedy has been productive of more good in the treatment of phthisis than any agent yet employed; and the results furnished by a table of 542 cases in which it was given, are highly interesting. The collective results in all the stages show, that in 63 per cent. the symptoms improved; in 18 per cent. the disease was arrested; and in 19 per cent. only, it went on unchecked. The report observes, that when it is recollected that of the whole number treated at the Hospital, the disease was arrested in only 5 per cent., the value of this remedy, under which the disease was arrested in 18 per cent., must be considered very great. Dr. Williams speaks most favourably of the oil in

the second and third stages, observing that, though not less satisfactory in the first than in these, it is slower in its action. This report, however, establishes the fact which we might naturally expect—that the greatest number of cases are arrested in the first stage. In nearly 18 per cent. of the males, and in 28 of the females, in the first stage, the disease was arrested; that is, in 293 cases of both sexes, it was arrested in 23 per cent. It was arrested in 14 per cent. of the cases of both sexes in the second and third stages.

What I have seen in my own practice fully confirms these statements; and in two of the cases which follow, II and III, the symptoms and physical signs showed as hopeless a condition as in any cases of Consumption I have ever seen, and indicated a speedily fatal termination, which, I am persuaded, nothing that we are yet acquainted with, except this remedy, could have averted.

Cod-liver oil has been called a tonic remedy, which it undoubtedly is; but it differs from other tonics, and indeed from most other remedies we are in the habit of giving in this disease, in one important respect, —that we may use it with advantage in every stage, and that there is scarcely any symptom which contra-indicates its employment. In general, the appetite speedily improves, the cough abates, the hectic fever diminishes, and the perspirations are arrested. The patient at the same time improves in colour, and gains strength and flesh. There are very few cases in which the pale oil cannot be taken; and if we begin with a tea or dessert spoonful, and gradually increase it to an ounce thrice a day, on the surface of peppermint water or milk, there are few persons who do not take it with facility, and become reconciled to it. When it causes nausea, naphtha or hydrocyanic acid will usually remove this symptom. We must not, however, trust exclusively to this remedy, but must give due attention to those general indications for treatment which have been pointed out. We should also remove any urgent symptoms, such as cough, by a sedative; and morphia is one of the best, given either in simple oxymel, or oxymel scillæ, where an expectorant is required. Local inflammatory action must also be removed by the usual means. Unless we are thus careful in removing prominent symptoms, and in bringing the digestive organs into a healthy state, so that the oil may be assimilated, we may fail in deriving from the remedy the benefit which it is capable of producing under judicious management. The following cases will illustrate these and some other points bearing upon the treatment.

Case I. *First Stage. Removal of the Tubercular Deposit by Absorption.* Thomas Daly, aged 18, a sailor, was admitted into the Infirmary under my care, on the 1st of October 1849. He had suffered from cough three months previous, but recovered until seventeen days before admission, when he was seized with cough and pain in the left side of the chest. He was pale, emaciated, and weak. His breath was very short, and he had some trifling expectoration, but never had hæmoptysis. The sound, on percussion of both clavicles, was less clear than natural, and below the left clavicle it was decidedly dull. Close to the sternum, and an inch and a half below the clavicle, it had somewhat of the sound elicited from the trachea. In the same spot the respiration was blowing,

and I was at first disposed to think that there might be a cavity; but the absence of gurgling and of purulent expectoration, showed that it was caused by tubercular deposit near the bronchus. There were no rhonchi on either side of the chest; but below the left clavicle the respiration was harsh or bronchial, and the resonance of the voice and cough very loud. Blisters were applied to remove the pain in the left side; and he took an ounce of cod liver oil thrice a day. He improved rapidly; and on the 22nd, he had got fatter and stronger, though he was pale and still had cough. Some dry crackling was now heard below the left clavicle. On the 29th, this could no longer be heard, but respiration was interrupted in the same situation. It was observed, however, that the dulness and bronchial character of the respiration had somewhat lessened. He was now ordered to rub in the iodide of lead ointment upon the upper part of the chest. On the 8th November, he had become quite fat and much stronger, but was still pale. A continuous murmur was audible in the veins of the neck. He still had shortness of breath on ascending the stairs; but the dulness and bronchial respiration had very decidedly diminished, and, in fact, were scarcely perceptible. With the view of increasing the red globules of the blood, the want of which seemed now to be as much the cause of the shortness of breath as the affection of the lungs, he was ordered to take twenty minims of the syrup of the iodide of iron, thrice a day, in place of the oil. On the 20th, he had not only grown fat, but had also acquired so healthy an appearance, that he would scarcely have been taken for an invalid. He still, however, had some pain below the cartilages of the false ribs on the left side, for which he was blistered. He remained in the hospital, and continued the syrup of iodide of iron, till the 14th December, when the presence of tubercular disease of the lungs could scarcely have been pronounced, with certainty, by any one who had not previously seen him.

Remarks. The crackling heard in this case would seem to show that softening was just begining to take place. The removal of the consolidation was chiefly due to the oil; but there can be no doubt that it was also promoted by the inunction with iodide of lead, and by the iodide of iron. I have at present, under my care, a young man in whom the deposit is undergoing equally rapid absorption under the use of the oil, assisted by inunction with iodide of mercury ointment.

Case II.[1] *Third stage, far advanced; abscess of lung pointing externally.* A ship carpenter, aged 36, was admitted under my care in the Northern Hospital, on December 6th, 1848. More than twelve months previous, he had been attacked with spitting of blood, and other pulmonary symptoms which had never entirely left him. He was much emaciated, and had profuse perspirations; he expectorated large quantities of puriform secretion of an offensive odour; and, when he coughed, his breath was insupportably offensive, scarcely less so than in cases of gangrene. The left lung was extensively diseased. There was a great amount of dulness, extending from the clavicle into the mammary region. There was the gurgling of a large cavity below the left nipple. Below the clavicle, there was the gurgling of smaller cavities, as well as the

[1] Condensed from notes, for which I am indebted to Mr. Wall, the House-surgeon.

subcrepitant rhonchus, indicating extensive softening of tubercular matter. There were no decided indications of disease in the other lung. He was treated with mild mercurial aperients, and a sedative mixture for the cough; and as he had much pain in his left side, a blister was applied. On the 11th, cod liver oil was prescribed. Below the left nipple, where the large cavity was found, a fluctuating tumour formed, and was opened on the 14th. When he coughed, air was expelled along with matter, showing that the abscess communicated with the lung. He continued taking the oil till the 23rd, when he was somewhat better; but as it caused nausea it was omitted, and he took a mixture composed of creasote, oxymel of squills, and compound tincture of camphor, with great benefit; the abundant purulent expectoration being much lessened by it. On the 1st January, the cod liver oil was resumed, in two drachm doses; and in a fortnight from that time, he had improved in a remarkable manner, he had gained flesh, and considered himself half-a-stone heavier. His countenance had assumed a cheerful and more healthy appearance, and his skin had become soft and smooth. Though he had some return of the pain in the side, and the abscess was opened more than once, he continued to improve steadily after recommencing the oil. On the 4th of February, he had every appearance of health; the abscess had all but healed, his appetite was good, and the expectoration had almost ceased. There was considerable contraction of the left side of the chest, and a great amount of dulness. The lung had been extensively excavated; but the progress of the disease was now arrested, and instead of the gurgling and rhonchi indicating the passing of air through muco-purulent fluid, there was heard the dry blowing of air passing into empty cavities. On the 16th February, he considered himself capable of following his employment, and left the hospital to go to New York.

Case III. *Third stage, far advanced.* Mr. W., aged 35, was seen by me, on the 2nd of February 1849, in consultation with Mr. Atcherley. The patient had been intemperate in his habits, and dated his illness from about the preceding Christmas. He was much emaciated, and had violent hectic fever. The pulse was above 120, and the perspirations were unusually profuse, continuing during the day as well as the night. He had no appetite, and the tongue was much loaded, but there was no diarrhœa. He was confined to bed, and had considerable œdematous swelling of the ankles—a symptom indicating great debility and an advanced stage of the disease. The cough was unusually violent and troublesome, and the expectoration was brought up with difficulty, and was of a tenacious muco-purulent character. The physical signs showed that the right lung was sound, but the left was extensively diseased. There was a great degree of dulness at the upper part, before and behind, and the gurgling and other signs of a cavity were heard in both situations. Over every other part of the lung, mucous and subcrepitant rhonchi, mixed with sibilant, indicated that extensive softening of tubercular matter was going forward. We resolved to make trial of cod liver oil, though we had little expectation of benefit in a case apparently so hopeless. Counter-irritation, with croton oil, was adopted, the diet was regulated, small doses of mercury with chalk and rhubarb were given, and an attempt was made to stop the perspirations with sulphuric acid. Sedative expectorants were at the same time given, to relieve the cough.

These means were, however, of but little service beyond preparing him for the use of cod liver oil, which he began to take on the 9th February. In a short time he began to recover; and some months after, Mr. Atcherley informed me that he had got stout and well. About the beginning of July, I had again an opportunity of examining him. He had then, for a long time, ceased taking any oil, but was still so stout that I could not have known him. He had at that time a slight return of cough, but had been nearly free from cough or expectoration, until a few days previous. The upper part of the left side of the chest was still dull on percussion, though less so than when I first saw him. Respiration was harsh and blowing, with some sibilant rhonchus, but there was none of the gurgling cavernous rhonchus; and towards the lower part of the lung, the breath sound was natural. The habits of this patient have been so intemperate, that he has not given himself a fair chance of recovery; and when I lately saw him, I did not find that any farther progress towards reparation of the local disease had been made.

Case iv. *Third Stage.* Thomas Alpen, aged 40, was admitted into the Infirmary, on the 21st of June 1849. He had been a soldier more than twenty years, during which he had been ten years in the Mediterranean, three in the West, and four in the East Indies. Three months previous he had been much exposed to wet and cold, in enforcing the collection of rates in Ireland; and this brought on cough and other symptoms of Consumption, on account of which he was discharged from the service as incurable. He was much emaciated, and his whole appearance indicated phthisis. He had hot skin, profuse night perspirations, and abundant purulent expectoration. He had diarrhœa, the tongue was red at the tip and centre, and he had lost his appetite and strength. The physical signs were equally well marked. On percussion, the sound was very dull below the right clavicle. In this situation, there was cavernous respiration, mixed with loud gurgling, arising either from a large cavity, or from several communicating. He took cod-liver oil, in addition to some mixture, to relieve the cough, and improved very speedily under this treatment. On the 9th July, he had gained flesh, and improved in appearance. He had no night sweats, and very little cough or expectoration. The bowels continued rather loose, and the tongue reddish at the centre, but in all other respects he was better. There was loud blowing cavernous respiration, but no movement of fluid in the cavity could now be heard, except when he coughed violently. On the 17th, some astringent mixture was given to check the diarrhœa, and after its removal he improved most rapidly. On the 5th August he looked so stout and healthy, that no one, from his appearance, could have supposed that he had a cavity in the lung, or that he was ill at all. His appetite was good, his tongue clean, his pulse 88, his skin cool, his complexion healthy, respiration easy, no night sweats, scarcely any cough, expectoration scanty and no longer purulent, but consisting of only a greenish-yellow mucus. There was still dulness below the right clavicle, and considerable depression, with dry blowing respiration, and other signs of an empty cavity tending to collapse. The patient felt so well, that he did not wish to remain longer in the Infirmary.

I am prevented, by the length to which this paper has extended beyond

what I had anticipated, from relating other cases, in which equally good effects followed the employment of cod-liver oil. I have also at present under my care several very interesting cases, to one of which I may briefly allude, as I have satisfied myself of the healing of a cavity. The patient has been several months under my care, and has been ill nearly a year, with frequent attacks of spitting of blood. He has had dulness and signs of consolidation of the middle and lower part of the right lung, and those of a cavity towards the lower part laterally. The expectoration has been abundant, purulent, and fetid. The situation might cause some doubt of the cavity being tubercular; but the symptoms and progress of the case cause me to regard it as such. He has been treated according to the varying symptoms; the chief means used being counter-irritation, iodide of iron, and cod-liver oil. The latter disagreed at first; but after several trials it was borne by the stomach, and seemed to be digested, the patient observing, that it no longer "rose on his stomach." Since then, the dulness has diminished, the cough has nearly ceased, the expectoration has stopped, and the signs of a cavity, and of mucous or purulent secretion in its vicinity, have disappeared; while the patient has at the same time become stronger and stouter.

It will naturally be inquired, how far recovery is permanent, in cases where cod liver oil has been used with benefit. The question admits of being answered now; but it will be more fully and satisfactorily replied to, when we have had further experience of the remedy. We have shown that, before its introduction, pathological researches and stethoscopic examination had united in proving that recovery not unfrequently occurred in cases of tubercular disease of the lungs, and was so permanent that the patients afterwards died of other diseases. And I see no reason why it should be otherwise, in cases where the disease is arrested by treatment, than in those where it is arrested spontaneously, except that in the former it may often be more extensive. I have, therefore, no doubt that when the disease is arrested at an early period, the cure may often be rendered permanent; and it has been ascertained by different observers, that it is often so, and even in a few of the more advanced cases. The report of the Hospital for Consumption assumes very properly that, as in some cases under observation the improvement is permanent, it must also be so in many that have not returned.

Consumption will, however, necessarily continue a more or less fatal disease; but the treatment is open to much improvement, and I believe that the close attention which is now being devoted to it, will enable medical men to accumulate proofs of its permanent curability in an encouraging number of cases.

4, Mornington Terrace, Liverpool,
January 1850.

CASE OF ANEURISMAL VARIX IN A STUMP, AFTER AMPUTATION AT THE ANKLE JOINT.

By WILLIAM CADGE, Esq., F.R.C.S.Eng., Demonstrator of Anatomy in University College, London.

The following case is worthy of record, less as a pathological rarity, than on account of the clinical instruction it affords.

The patient was afflicted with several complaints besides that which I wish now to describe; but to carry the history of the case through the whole of these, would be not only tedious and unnecessary, but would occupy too much time and space. I shall, therefore, simply select such passages from my case-book, as will complete the history of the disease I desire to illustrate: viz., Aneurismal Varix occurring in a stump, after amputation at the ankle joint.

Case. G. K., a young man between thirty and thirty-five years of age, consulted the late Mr. Liston, in the spring of 1847, on account of strumous disease of the tarsal joints of the right lower extremity, resulting from a neglected sprain of the foot. There was pain, lameness, and chronic thickening of the synovial membrane. Lateral leather splints were applied; a strong solution of iodine was painted on the part; ferruginous tonics were prescribed; and he was sent to the sea-side. These measures failed to improve his health; on the contrary, abscesses formed and opened, and sinuses were established. The health beginning to give way, he returned to London. The question of amputation was raised; but the previous history of the patient gave rise to some difference of opinion.

A few years before, the patient, then a lieutenant in the navy, had suffered from an attack of pleuro-pneumonia, which ended in phthisis, and threatened to prove speedily fatal. By great skill and care, however, the disease was arrested after it had reached its third stage; and he recovered so far as a patient, having large cavities at the apices of both lungs, can ever be said to recover. At the time when the question of amputation was raised, he was in apparent health; the phthisical symptoms were latent; he had scarcely any cough or expectoration, and was but little emaciated. Under these circumstances, Mr. Liston recommended the operation, as the only means of saving him from a lingering illness and certain death; while the late Mr. Key rather dissuaded him from any operation, on account of the condition of the lungs. The former opinion was acted on, and then another question arose. Was the disease so located as to admit of the performance of Chopart's operation, or was it necessary to go higher and remove the whole foot? This point was settled at the time of operating.

The patient having been rendered insensible with chloroform, administered by Dr. Snow, Mr. Liston, assisted by Mr. Field and myself, first made a transverse incision over and into the astragalo-scaphoid articulation, which was examined by the finger, and found to be rough and scabrous. Chopart's operation was, therefore, relinquished; and it was determined to remove the foot at the ankle joint. With this view, the incision already made was continued upwards, on both sides, to the tip of the malleolus, so as to form a slightly convex anterior flap: the

knife (a strong bistoury) was next drawn across the sole of the foot, from one malleolus to the other. The anterior flap having been raised, and the joint opened and separated, it only remained to divide the tendo Achillis, and dissect out the os calcis from the posterior flap—rather a tedious and troublesome proceeding. The tips of the malleoli were clipped off on a level with the lower end of the tibia, by means of strong bone pliers; two or three small arteries were secured, and, in the evening, I brought the flaps together, with a few sutures and strips of isinglass plaister. Union by the first intention occurred, save where the ligatures escaped; and the stump required no second dressing.

About ten days or a fortnight after the operation, I visited the patient with Mr. Field, during Mr. Liston's illness; and my attention was at once drawn to a swelling over the inner side of the stump, apart from the wound, about the size of a large walnut, red, tender, and fluctuating; in appearance it was an abscess, and I was about to open it; but hesitated, on finding that it pulsated violently at every part. There was also a loud whirring murmur, audible with each beat of the pulse. At first, I doubted whether I had not a false aneurism to deal with; but a more careful examination led to the conclusion, that it was simply an abscess seated over or under the posterior tibial artery; accordingly, I opened it on one side where the pulsation was least violent, and evacuated a quantity of well formed pus; poultices were applied, and in a few days the discharge and swelling disappeared, and the wound healed. The remarkable pulsation and bruit continued as strongly as before. The patient himself was quite aware of the pulsation, but, as it caused no pain or inconvenience, it attracted no further notice. A small sinus formed at the back of the stump, which allowed a probe to enter and pass upwards about an inch. As there was no pain nor tenderness, and scarcely any discharge from it, firm pressure was made over the whole stump, and I put an issue in the arm. The sinus quickly healed, and the whole part became sound and consolidated, and the chest symptoms also were better than they had been for many months. An artificial foot of admirable construction was made by Mr. Gray of Cork Street, and the patient was able to walk several miles daily, with scarcely any lameness; and to use his own expression, he could "go through a quadrille very creditably." The whole weight of the body could be borne without uneasiness by the naked stump; indeed, the case proved, in an eminent degree, the superior advantage of this operation. In January 1849, about fifteen months after the amputation, he fancied that the pulsation was stronger than usual, and that, in addition, there was some swelling of the inner side of the stump. He consulted Mr. Key, who regarded the case as one of false aneurism, and, without giving a positive opinion, hinted at the necessity of some operation: either a fresh amputation, or ligature of the vessel above. This advice caused a good deal of alarm; and, on the following day, I was requested to visit the patient. There were the same pulsation and bruit, both somewhat increased in intensity, as had existed a year ago; but there was also—what had not been before noticed—a pretty distinct elastic swelling, about two inches long and of two fingers breadth, over the inner side of the stump. Every part of this swelling pulsated forcibly, and the loud whirring murmur could be heard at some little distance. When the

posterior tibial artery was compressed above, the pulsation ceased, and the tumour became flaccid; and both returned when the finger was removed. What was the nature of this swelling? That it was aneurismal, there could not be a doubt: if it was a common false aneurism, then it had existed at the time of the operation, or very shortly after; but the progress, during the interval, had been very unlike that which usually obtains in false aneurisms.

I advised him not to submit to any operation for the present, both because of the long duration and uncertainty of the nature of the disease, and because he was doubtful whether the swelling was undergoing any increase in size. I proposed that he should refrain from using the stump for a time, and permit me to attempt a cure by means of pressure, both on the swelling and on the artery above, by two of Signorini's tourniquets. Should this plan fail, and the swelling increase, it would then be time enough to decide what operation to perform; but if no increase in size occurred, firm pressure should be made on the whole stump with an elastic bandage, and he should continue to use it.

On the following day, Mr. Fergusson met Mr. Field and myself in consultation, and fully concurred in the plan of treatment by compression; and it was, accordingly, commenced at once. While we were applying the tourniquets, the patient complained to me of constipated bowels. The usual purgative medicines were prescribed, but without the usual effect; stronger medicines and injections were ordered, but no evacuation could be procured. Pain, flatulence, and distension of the abdomen ensued; and, in a day or two, it became evident, that there existed some internal mechanical obstruction, but at what particular part, there were no signs to indicate. I need not describe in detail the progress of this unfortunate case; suffice it to say, that all our remedies were unavailing. The abdomen grew immensely distended, and the patient died, eight days from the commencement of the attack.

An anatomical examination was made thirty-six hours after death: and the abdomen was first examined. The obstruction was seated in the sigmoid flexure of the colon, close to the rectum, where it was so twisted as completely to close the canal. This part of the large intestine was of greater length than usual; and, instead of making its ordinary curve in the iliac fossa, it reached upwards as high as the xiphoid cartilage, where it doubled on itself, and returned to end in the rectum at the margin of the pelvis; this coil was of amazing size, resembling the stomach when distended. The mucous membrane, for some distance above the obstructed part, was of a purple colour, very soft, and easily raised; the cæcum and colon were much distended; the small intestines were empty; the diaphragm was pushed up to a level with the upper border of the third rib on the left side, and fifth on the right. I have, in one instance before, discovered the sigmoid flexure of the colon to be of inordinate length, reaching nearly to the right iliac fossa; and Dr. Yelloly[1] has given numerous instances of the same kind. He regarded it as a natural conformation, and not, as Dr. Wells thought, the result of disease; in the present case it seems most probable that it was the cause, and not the consequence, of the obstruction. The lungs were adherent

[1] Edinburgh Medical and Surgical Journal, No. 64, p. 476.

to the parietes of the chest at every part, the connecting false membrane being at some places fully a quarter of an inch in thickness and as tough as fibro-cartilage. There were large dry cavities in the upper lobes of both lungs, surrounded by dense non-crepitous lung, which sank in water; the lower lobes were healthy, and contained not a trace of tubercle in any stage. I was permitted to remove the stump about six inches above the extremity; and, some injection having been thrown into the arteries, a careful dissection was made.

The first thing which attracted notice was, that the two companions veins of the posterior tibial artery were filled with injection. On tracing the artery downwards, a large branch, probably the internal plantar, was found to arise from it at the inner side of the stump; this branch, about the size of a crow-quill, ended, within a quarter of an inch from its origin, in a bulbous enlargement, about the size of a horse-bean, which communicated, by means of a large short branch, with the posterior tibial vein, and thus formed an Aneurismal Varix. The tibial artery and veins were continued onwards to about the centre of the lower end of the stump, where they ended abruptly, being of full calibre to their termination; there was no distinct tumour of any kind. In the leg, the vessels were bound down deeply by the strong fascia which passes between the tibia and fibula; close to the ankle, this fascia had been interfered with by the operation, and the vessels escaped from beneath its lower border and mounted over the root of the inner malleolus, separated from the bone by the bulbous extremity of the tibial nerve; and thus at this point, where the Varix existed, they were close beneath the skin, and both artery and veins beating strongly, gave the elastic feel and appearance of defined swelling, which had been mistaken during life for the sac of a circumscribed false aneurism.

The dissection of the stump showed how well adapted it was to bear pressure. The plantar fascia, where it had been cut from the os calcis, had become attached to the tendo Achillis behind, and in front, to the cut ends of the extensor tendons; between it and the lower end of the tibia there was merely some reddish loose cellular tissue; but, between the fascia and the skin, there was a great thickness of dense granular fat, much more than is usually found over the heel, and this not only served as a most efficient pad, but also reduced the difference in the length of the two limbs to less than two inches.

Remarks. The diagnosis of Aneurismal Varix from circumscribed false aneurism, is generally clear and plain; and it may be thought that in this case the true condition of the parts ought to have been appreciated. But a little consideration will show, that the differential signs were few and imperfectly marked, while all the symptoms of false aneurism were present, viz., a pulsating tumour, situated in the course of an artery, apparently slowly increasing in size, and attended by a marked bruit as the blood flowed into the supposed sac,—the pulsation, swelling, and bruit, all disappearing when pressure was made on the vessel above, and returning when the finger was removed. That which tended most to throw a doubt on this view of the case was, that whatever the true nature of the disease might have been, it had existed upwards of a year, and the increase in size of the tumour, if indeed it enlarged at all, was very slow,

and wholly unlike the usual behaviour of an aneurism. This slow progress and long duration led me to recommend the patient to pause before submitting to any operation; and I need scarcely say, that the dissection has shown that, in all probability, no surgical interference would have been necessary, had he continued to live.

The unprecedented occurrence of Varix in a stump contributed not a little to mislead the diagnosis. Since the first discovery of the disease by Dr. W. Hunter, in 1757, the records of surgery contain numerous cases, showing that it may occur in various parts of the body besides at the bend of the elbow; thus, the carotid, subclavian, temporal, radial, femoral, and popliteal arteries, have all been the seat of Varix; and Mr. Syme[1] has met with a case of varicose aneurism of the aorta and vena cava, which occurred spontaneously. Next to the bend of the elbow, the most frequent situation of Varix is the thigh, between the femoral artery and vein, and it is generally produced by the sudden closure of the thighs to catch a falling sharp instrument, the point of which passes between the artery and vein, wounding both. Mr. Liston[2] has described a case of this kind, which I had an opportunity of examining; there were varicose veins and ulcers of the leg, and a tumour on the front of the thigh, caused by venous dilatation, thrilling pulsation, and loud systolic murmur, together with weakness and numbness of the whole limb. Firm pressure from the toes upwards diminished the pulsation and reduced the swelling, and no operation was required.

I have, however, met with no instance of its having occurred in any part of the body as a consequence of amputation, and it is not easy to understand how it was brought about in this particular case. Most probably, the point of the bistoury passed between the artery and vein, wounding both at the point where they lay in apposition. The communication thus established at the time of the operation, would require but very little pressure to prevent all outward hæmorrhage, and this was afforded by dressing the stump.

It was remarked by Dr. Hunter,[3] that in Aneurismal Varix at the bend of the elbow, while the pulse at the wrist was weakened, the brachial artery was enlarged and dilated; this he attributed to the diminished resistance to the circulation from the aperture in the artery, which had almost the same effect as if a branch as large as the opening had been added. Mr. Hodgson explained it by saying, that as part of the blood was diverted from its usual course, it was necessary for the artery above to enlarge and carry more blood, in order to keep up the nourishment of the lower part of the limb; the former is the law, and the latter its application. The case I have described affords a negative proof of the correctness of these explanations, as there was no limb below the point at which the Varix existed, so there was no necessity that the vessel above should dilate; accordingly it was found, on dissection, to be of ordinary calibre.

University College, January 1850.

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[1] SYME. Edinburgh Medical and Surgical Journal, No. cviii, p. 104.
[2] LISTON. Elements of Surgery, p. 676.
[3] HUNTER, Dr. Wm. Medical Observations and Inquiries, vol. ii, p. 390.

CASE OF LACERATION OF THE VAGINA AND UTERUS,

REPORTED BY MR. THOMAS MORLEY ROOKE:

WITH REMARKS AND THE SUBSTANCE OF A CLINICAL LECTURE

By JOHN C. W. LEVER, M.D., Physician-Accoucheur to Guy's Hospital.

CASE. S. B., ætat. 28, is a married woman, and has been so for six years. She has had three children; she was confined of the first, ten months after marriage; it was still born; the labour was lingering, but she recovered well. The second child was born at the end of about another year, and lived fourteen months; and the third, a boy, after about the same period. He is still living, and is a healthy child, about two years and eight months old. She has not since given birth to any child up to the present time, and has never had any abortion. Her last confinement was more lingering than the previous one, where the child was a girl. She is a woman of rather short stature, fair, and of tolerably florid complexion. Her husband is a labourer, and she follows the occupation of a sempstress; but for the last few months she has had little to do, and in consequence of her husband being frequently out of employment, she has not lived well, eating chiefly fish in the way of animal food. She has never had any serious illness, but is now pregnant with her fourth child; and, for the last ten months, has complained of a severe dragging pain in the abdomen and back, to which, however, she has not attached the slightest importance, and, when requested to have advice, she has been averse to it.

At a quarter before three, A.M., on the 16th, I arrived at her house, having been summoned to attend her in labour, and seeing her then for the first time. I found her laid on the bed, with severe expulsive labour-pains. On inquiry, I understood that the membranes had ruptured half an hour previously, that she had had vigorous bearing-down pains since one o'clock A.M., and that the first stage of labour had been going on all the previous day. On examination, *per vaginam*, I found the os uteri fully dilated, and the head presenting at the upper part of the vagina, and looking backwards towards the sacrum. Under the pains it rapidly made the turn of the axis, and appeared in about half an hour in the cavity of the pelvis, in the first position. A short time before my arrival, she had both defæcated and passed urine. The pains continued at intervals of every two or three minutes, and there seemed, at first, every probability of a speedy termination of the labour; the pains were now not only strong and straining, but seemed almost of an agonizing and torturing character—at least I thought more so than I had hitherto witnessed in my limited experience. The head advanced somewhat further during the next half-hour, so that the scalpy tumour which had formed on the head of the child could be felt little more than half an inch within the labia, and the soft parts became all freely dilated. The pulse was now full and quick; a small quantity of fæces was squeezed out of the rectum during the advance of the head; but from this time, the head seemed to make no progress, though the pains continued in nearly full force. On several times examining, during the next two or three hours, I could detect no advance of the head during the accession of a pain, or recession of the head during the decline and intervals

of pain; it seemed very firmly fixed between the bones of the pelvis. About seven o'clock, A.M., the woman rather suddenly complained of a peculiar pain, unlike anything which, she said, she had ever felt before; she described it as a severe scalding or burning pain in her belly, extending up to her chest. This (by no means unimportant, when taken in conjunction with the after symptoms) considerably impressed me at the time, though not in the greatest degree, as we frequently hear women complain during labour of sudden peculiar pains, which, they say, they have never before experienced, but which do not prove to have any serious connexion. The pains, however, continued; but from this time, or a little before, they began to occur less frequently, though still of considerable force; they perhaps now occurred (*i. e.*, during the first half-hour of the decline) every five or six minutes, instead of every three. At the same time, the pulse, I thought, began to get smaller and quicker; and, on making a vaginal examination, the finger was smeared with blood, not, however, more than was to be accounted for. I now became more impressed than ever, that this was no common case; and at half-past seven, sent a note to Mr. Assaid requesting his attendance, briefly stating the character of the labour, viz., the time it had lasted, the great severity of the pains, followed by their decline, and, from some cause, the appearance of exhaustion commencing in the patient; and that I considered the chief peculiarity consisted in the immobility of the head during the pains. Mr. Assaid arrived about a quarter past eight, when I detailed to him the particulars; he instituted an examination, and considered the pelvis of tolerable dimensions, and the head of the child of normal size. For the last half-hour before he arrived, the pains had rapidly subsided, and were now all but gone, and the patient remained much more quiet; she had vomited five or six ounces of a dark greenish liquid. Mr. Assaid considered that, after all, nature would be found equal to the expulsion; that the present condition was one of uterine inertia, and that, if temporarily stimulated by the administration of secale cornutum, nature might resume her powers, and labour be completed. At any rate, it was better to make the trial before having recourse to instrumental aid, especially as she had not been long in labour, and had already become the mother of three full-grown children, born by natural efforts; at the same time, he was of opinion, that if symptoms of exhaustion continued, brandy should be judiciously administered. Accordingly, thirty minims of the ethereal tincture of ergot were given; this produced a few sharp pains, but they did not continue; a second dose was administered at the end of half an hour, but this produced no effect, and she immediately vomited a large quantity (perhaps a pint) of dark grumous fluid; she complained of thirst, and was supplied with tea, and brandy with it. In another half-hour, she again vomited the same quantity, and was given some more brandy; this was about ten o'clock; exhaustion, however, was not then very great. At her request, she was allowed to get up, and, with assistance, took a turn or two in the room; she laid down again, and now exhaustion rapidly increased. She began to complain of dimness of sight, and of seeing objects double.

In the interval, Mr. Pettigrew had been applied to by Mr. Assaid, and he soon arrived. He considered it a case of laceration of the womb, or

of the parts adjoining, and immediately proceeded to the further administration of brandy, to cover her with warm clothing, and to endeavour by some means to rouse the vital powers before applying the forceps, so as to have a greater chance of securing contraction of the uterus and the prevention of subsequent hæmorrhage. The catheter was also passed, but no urine escaped. Towards twelve o'clock, she was rather revived, and professed to feel better, although complaining at intervals of the sharp pain in the belly, and saying if it were not for that, she could go to sleep. A drachm of laudanum was then administered; she was gently moved to the edge of the bed, and the proper preliminaries having been arranged, and an attendant being stationed to apply pressure to the uterus, and follow it down during the gradual withdrawal of its contents, the forceps were then applied by Mr. Assaid, and the head slowly extracted. The whole delivery was performed slowly, partly with the hope of more surely ensuring contraction, by the gradual emptying of the uterus, and partly, to give as little fatigue as possible to the patient. The child was dead—it appeared as a large male, with a full-sized head; the uterus was felt contracting under the hand during the delivery, and it remained so afterwards. The placenta easily came away, by slight traction on the cord; delivery was completed at half-past twelve. The child had a livid hue, and the placenta contained venous-looking blood; very slight hæmorrhage followed the birth. A broad bandage with a firm and thick pad over the uterus was immediately applied round the abdomen, and half a drachm of aromatic spirits of ammonia, with twenty minims of tincture of opium, were administered, but the patient was evidently sinking. The abdomen now, as it did, though in a less marked degree, before delivery, gave evidence of its containing fluid of some sort; the pulse was no longer perceptible at the wrist. The patient complained of greater dimness of sight, of ringing in her ears, and that her breath was getting shorter, which indeed it was; her countenance wore a shrunken and anxious expression, her extremities were getting cold, she once or twice raised herself up on the bed, gave a vacant and rather wild stare around, and as suddenly dropped again. She refused everything offered her to swallow, but she replied coherently and intelligibly when spoken to, and offered some voluntary remarks. She once more complained of a racking pain in her stomach, and now being soon afterwards asked (as she had previously wished it) if she would like to see her little boy, she rather feebly and dreamily answered, that she should. When he was brought, in two or three minutes, to her, her eyes were feebly opened, but the film of death was on them; a slight expression of recognition played for an instant over her features, and as quickly passed, but she did not speak; and now, evidently, unconsciousness supervened, the intervals of respiration became longer and longer, and in five minutes life was extinct. She died at 1 P.M., half-an-hour after the completion of delivery.

Post-mortem examination, twenty-four hours after death. The whole surface of the body was very pale and wax-like; the mammæ were well developed and enlarged; the abdomen much distended (more so than immediately after death); the pelvis externally seemed of normal size. Over the front of the legs, a few dark purpurous spots were perceived, which could scarcely have been produced after death, as they

were uppermost as the body was laid. On incising the abdomen, a layer of fat, half an inch thick, was found beneath the integuments, but the muscular parietes were thin. On opening the peritoneum, we found the cavity almost filled with blood and clots, of which it must have contained half a gallon. The uterus appeared well contracted at its fundus; but lower down was discovered a *rent*, commencing towards the left side of the posterior wall of the vagina, immediately below the os uteri. It at first ran almost transversely across the vagina, separating it from the uterus, then obliquely upwards to the right side, through the muscular and serous parietes of the uterus for two or three inches, and continued on to the right broad ligament, through the serous coat only; the whole rent was nearly seven inches in extent. The right ovary contained a well-formed corpus luteum; the left was very small, and apparently atrophied. As regards the bones of the pelvis, the promontory of the sacrum was sharp and prominent, and the tuberosities of the ischia rather near together; but the pelvis was by no means too small for the safe expulsion of the child by natural efforts, had everything else been favourable. There was no appearance of inflammation having existed in the uterus. Different parts of its serous surface had, certainly, a bright rose-coloured tint, as had other parts of the peritoneal sac, but not more, it was supposed, than was explicable from post-mortem changes. The spleen was small, the bladder was empty and somewhat mottled. The kidneys were rather large; and on stripping off their investing tunic, a number of small white spots were perceived, which were imbedded in the secreting structure; this seemed like the lymphic deposits of inflammation at some former period. Owing to the presence of friends, the remaining viscera of the abdomen, and those of the chest, were not examined. T. M. R.

Remarks. The previous history of this patient demands some notice. She had given birth to three children; her first labour was difficult, and the child still-born; her second child was born alive, and lived fourteen months; the third, a boy, is still living, and was expelled after a lingering labour. Multiparæ are more liable to suffer from laceration of the uterus and vagina, than are primiparæ, this accords with the experience of all writers on the subject; thus Dr. Churchill, at p. 357 of his work *On the Diseases of Pregnancy and Childbed*, gives the result of seventy-five cases quoted from different authorities, and, of this number, but nine occurred in the first pregnancy; of the nine cases recorded by Drs. Hardy and M'Clintoch, all were multiparæ. I have myself seen but two instances in which this serious lesion occurred in primiparæ; in one, there was intense agonizing and irregular uterine contraction, unrelieved by bleeding or opium; in the other, there was disease of the uterus itself. This woman's constitutional powers were also very feeble; the husband had but occasional employment; and, to increase their means of subsistence, she had recourse to the badly-paid occupation of a sempstress; but, notwithstanding she had fared so badly, the child was of full size—in fact large and well developed. It has been recommended by some of the older writers on midwifery, where there exists but a slight diminution of the natural size of the pelvis, to keep the mother on a small allowance of food during the last weeks or months of gestation,

in order that the child may not be so well nourished, and, therefore, unable to attain a size which might render the labour tedious or difficult. In several instances this has been experimentally tested; but, although the mother has suffered and become attenuated under the diminished diet, the development and nourishment of the child has not been interfered with. For two months prior to her labour, this patient had been complaining of dragging pain in the abdomen and back, but which could not have been very distressing, as although she might, with but little trouble, have had advice when recommended to do so, she refused. In my opinion, these pains were due to the dragging and weight of the gravid uterus, and altogether distinct from those pains which sometimes are found in pregnant women, and which depend upon a diseased state of the uterus itself, resulting in alteration of the tissues, and frequently terminating in ramollissement; or from those which usually attend the various forms of placentitis, and which are followed, more or less, by adhesion of the placenta to the walls of the womb. Labour appears to have been established at one o'clock, A.M., on the 16th; in one hour and a quarter, the membranes ruptured; and at a quarter to three, when Mr. Rooke saw her, he found the os uteri fully dilated, and the pains vigorous and bearing down; the head, which presented quickly, passed into the cavity, and the attendant was led to hope a speedy termination to the labour; but the pains assumed a new character, they became "agonising and torturing", and yet they served to advance the head, so that the scalpy tumour was not more than half an inch within the labia. From this period the head seemed to make no advance, neither advancing during pain, or receding during its remission. Matters continued much in the same state until 7 A. M., when the patient expressed herself as feeling a pain, which on previous similar occasions she had never experienced; she described it as "severe, scalding, burning", extending from the abdomen to the chest. This symptom deserves some notice, for I have rarely seen laceration of the uterus occur without a cramping or burning pain, with a degree of local tenderness in the abdomen, having preceded the lesion. Dr. Douglas is emphatic in his injunction for us to be on our guard for rupture, when such pain is suddenly complained of. From this time, the pains declined, not suddenly, as in many cases of rupture, but gradually; at first five or six minutes' interval took place between them instead of three. If the whole of the uterine tissues had been at first involved, if the rupture had implicated all the parts of the cervix or body, then, according to my experience, there is in the majority of cases a sudden cessation of uterine contraction; but this symptom does not hold good in all cases; for I have seen the child expelled by natural efforts, even when it was known by examination, and by other symptoms, that rupture had occurred. The alteration in the state of the pulse must also be noticed: at first, it was full and quick; when the lesion occurred, it became small, rapid, and thread-like; and just before dissolution, or rather soon after her delivery, it was imperceptible at the wrist. This alteration in the state of the pulse is usually found in cases of ruptured uterus and vagina, but it is also present where there exists laceration of any important internal organ. I have known it present, where a large ovarian abscess burst, and emptied its contents into the peri-

toneal cavity, during the progress of the expulsion of a premature child. When Mr. Rooke passed his finger to ascertain the progress of the labour, he found it stained with blood, but to not such an extent as to surprise him; and yet the quantity of blood poured out from the laceration, as gathered from the results of the post-mortem examination, was very great. Where lacerations of the vagina or uterus take place, one very frequent symptom is the discharge of fluid blood; but as in this case the head was fixed in the pelvic cavity, the blood found more ready ingress into the peritoneal cavity than egress through the vagina. That fluid was collecting within, was ascertained before delivery, and was rendered much more evident after the uterus was emptied; and this is not surprising, as the quantity of fluid and coagulated blood was estimated at half a gallon. Recession of the head, is generally another diagnostic symptom of rupture; here it was not, as the head was seated low down in the cavity of the pelvis. Vomiting is also a distressing but marked symptom; and here the fluid rejected was of a dark grumous character like coffee grounds. The vomiting of fluid of this character during the advanced stage of labour, is always to be reckoned as a grave symptom, especially if attended with symptoms of exhaustion. I have never seen a case of rupture of the vagina or uterus without it, but I have known it occur in labours which have terminated happily; but then it has not been accompanied by other symptoms, which usually attend this serious lesion.

Mr. Rooke, seriously impressed with the gravity of his case, requested the advice and assistance of his colleague, Mr. Assaid. This gentleman, taking into consideration that the patient had given birth to three full-grown children, and that the pelvis was not seriously abbreviated, was disposed to regard the case as one of uterine inertia, and was of opinion that, if by means of general and specific stimuli the system could be roused and the uterus excited to contract, the case might be terminated by natural efforts. To effect these purposes brandy was given, and the ethereal tincture of ergot was administered; the exhibition of the latter was followed hy the production of three or four sharp pains, but their continuance was brief; a second dose was administered—no pain resulted, but vomiting occurred Even at this time, the symptoms betokening exhaustion were not very great; yet the gentleman in attendance, doubting the issue of the case, sought the advice of the surgeon-accoucheur. Before the arrival of this gentleman, at the earnest entreaty of the patient, she was permitted to rise from her bed, and supported to walk up and down the room; this was quickly followed by aggravation of all the symptoms. It is at all times most difficult and painful to withstand the entreaties of the patient and her friends; the sense of constriction of the chest, the desire to breathe more freely, the feeling of oppression, the sensation of sinking, lead the patient to implore change of posture, to sit up, to stand, to walk; anxious relatives and watching friends join most energetically in the appeal; but such must not be conceded, for exhaustion will be developed more speedily, and death take place more quickly. It was so in this case; the alteration of position was speedily followed by dimness of sight and double vision; and when Mr. Pettigrew arrived, he readily suspected and diagnosed the character of the lesion. He wisely resolved to endeavour to rouse the vital powers

before attempting to deliver, by the administration of brandy, the application of warmth, and other similar means. About twelve o'clock, she had revived to a certain extent; opium was administered, the alteration to the proper position was slowly and cautiously accomplished. This is of great importance; we should, especially, be careful to keep the head of the patient lower down even than the shoulders. Due precaution was taken to secure the contraction of the uterus according to its diminishing contents, the forceps were carefully applied, traction was cautiously made, and the child slowly withdrawn. In rupture of the uterus, there are three modes in which delivery may be completed: firstly, by turning; secondly, by the employment of the forceps; and thirdly, by the use of the perforator. The first is only applicable to those cases where the head does not occupy the pelvis, or where it has receded; the forceps may be applied in cases where the head has not receded, and where there is no material abbreviation of the pelvic dimensions; yet, in the application of the blades of this instrument, great care must be had lest the child be forced to recede; thirdly and lastly, if the perforator be employed, the opening into the skull must be made gently, and not with so much force as in cases of locked or impacted head, lest it should also recede. In this case, the forceps were applied with tolerable facility; and the wisdom of the selection of this mode of delivery is shown by the sequel. But little difficulty was experienced in the extraction of the placenta; and in but one case that has fallen under my notice, have I had any trouble in the extraction of the secundines. In this solitary case, the placenta and its membranes escaped into the peritoneal cavity; and the difficulties in its delivery, with the feelings attendant thereupon, may be more easily imagined than described. There is one symptom which I have already alluded to, but which deserves a further remark, viz., the sensation of fluctuation in the abdomen, coming on and gradually increasing during labour. This could not have been ascitic fluid, for there was no evidence of its existence at the commencement of labour; if it were the contents of a cyst or abscess, its quantity after evacuation would not have been increased. Taking into consideration the time when it first evidenced itself, its gradually increasing quantity and its attendant constitutional symptoms, the gentlemen in attendance very rightly supposed it to be due to the effusion of blood. Large as the quantity was, it was not larger than might be expected from an examination of the parts after death. The symptoms following delivery were those to be expected; exhaustion became greater, dimness of sight and ringing in the ears supervened, her countenance became pallid and anxious, the extremities became cold, but coherence remained; she could answer questions as well as make voluntary remarks, and her last but momentary act of recognition, was bestowed on her only child. I have often observed that in the majority of these cases, where death takes place quickly after the lesion, consciousness persists to the last. It is unnecessary to recapitulate the necroscopic appearances, except as far as relate to the pelvis, vagina, and uterus. The promontory of the sacrum was sharp and prominent, the tuberosities were slightly approximated, but the pelvis was by no means too small for the safe expulsion of the child by natural efforts, although it must be remarked that the child was a male and its

head of full size. The laceration separated the posterior wall of the vagina from the uterus; then, running obliquely upwards to the right side, it divided the muscular and serous coat of the uterus for two or three inches, continuing to the right broad ligament, implicating only the serous coat; in its course it laid open several large sinuses, and hence the quantity of blood effused, which so speedily terminated this poor woman's life. On careful examination, there seemed to be no previously existing morbid lesion, produced by inflammation, or other cause, such as is found in the majority of cases of this fearful complication. I am inclined to suppose, that from the pressure of the tightly fitting head on the soft parts, the structures of which they are composed became infiltrated with serum prior to the laceration; that the lesion at first was small, but gradually increased until it assumed the fearful size that post-mortem investigation revealed.

Wellington Street, Southwark,
January 1850.

BIBLIOGRAPHICAL RECORD.

A Few Suggestions on Consumption. By Robert Hull, M.D.; Extra-Licentiate of the Royal College of Physicians; Physician to the Norfolk and Norwich Hospital. Pp. 138. London: 1849.

Dr. Hull informs us that his object in publishing this little book, is to "deprecate and supersede mischievous agents" in the treatment of Consumption: a very laudable intention, in the following out of which, a good work *might have*, we wish we could say *has*, been written. A careful investigation of the physiological and therapeutic actions of the various remedies which are ordinarily employed, or have from time to time been recommended as our weapons against this insidious, and too often death-dealing foe, would be a boon of great value; and had Dr. Hull even made an attempt, however imperfect, to furnish us with such a gift, we should have thanked him for it, and cheerfully awarded the praise due to all who labour heartily with right efforts to advance our real knowledge. But he has done nothing of the kind. We meet with strong words and dogmatic assertions in abundance; but *proofs*, such as we might expect, based upon anything like substantial foundations, exist not in his pages. For instance, *opiates* are Dr. Hull's favourite aversion—*ex opiatis, tanquam à peste, fugiendum est*, is a quotation more than once repeated. "Opiates, I cannot repeat too often, are lethal," he says, near the close of the book, and the same dogma is asserted and re-asserted continually throughout it, but there is no attempt to *demonstrate* its truth; and, with amusing inconsistency, he recommends morphia when hæmoptysis occurs! Let any of our readers consult the recent report of the Hospital for Consumption at Brompton, as to the relative frequency of this symptom, and then say how many patients would escape the administration of this *lethal* remedy? "In hæmoptysis," he says, p. 61, "according to the degree of cough, opiates must be given, lest the succussions of cough should burst afresh the vessels, or open fresh vessels not already burst." But at p. 66, in commenting upon a case we are told that—"Thaulius displayed this peculiarity in the treatment of himself, that he rode on horseback more often and more violently during his protracted and copious bleedings. In fact, he despaired of his life, and he rode with desperation. Whether *this* horse-exercise, or Dr. Elliotson's turpentine, saved him—who shall decide? *He* thinks the turpentine; I am disposed to believe in the horse." How shall we reconcile these discrepancies of the author?

Dr. Hull's treatment of phthisis is simple enough;—avoid physic, especially what he is pleased to denominate *bee-hive* medicines,—"ride, eat, and drink, like bagmen!"—do this, and, upon Sydenham's authority, salvation is promised to our invalids (p. 16). Here is a case in point.—"Cranius, a young gentleman, aged fifteen, consulted me in the autumn of 1845. He displayed all the external signs of the phthisical frame. And he gave proofs of an ample cavity in the apex of the left lung, and of a smaller excavation in the summit of the right; the pulse ranged to 120. The liver was very torpid, and the alvine excreta drab-coloured. The father of this patient, a gentleman of masculine sense, was quite ready to send his son, on medical authority, to the South of France, or to Spain, to Italy, or Malta, to Madeira, or anywhere. I told him of the uselessness of such inconvenient expeditions; and he chose that his son should not be banished. I directed attention to the *liver*, prescribing dandelion internally, and baths impregnated with nitro-muriatic acid. That the diet should be generous, of milk and solid animal food, of malt liquor. That no pectoral drugs, nor *opiates*, should be given. That, if the cough disturbed by night, free potation of porter, which is somniferous, should be preferred, medical sedatives excluded. That the patient should expose his lungs, his body being warmly clad, to the air. He resided in the northern part of Norfolk, and he rode daily on horseback to the sea-

shore, distant seven miles. At Christmas, his pulse being quick as ever, the sputa were puriform, very offensive, and copious; the gurgling in the cavities was remarkable as ever, and emaciation was extreme. Profuse perspiration at night. It seemed that death could not be very distant, but he persevered in his course. In the month of May, he presented himself to me, fleshy as he had ever been, in buoyant spirits, in juvenile strength. On stethoscopic examination, all cavernous symptoms were gone." (p. 15).

Truly, this is a marvellous case,—large cavities at Christmas, all physical signs of their existence banished by May! Well may Dr. Hull say, that nature "healed all breaches with triumphant energy"!

But the worst feature in the book is the spirit in which Dr. Hull reviles all treatment but his own, and the accusation he brings against his professional brethren, of systematically destroying their phthisical patients. The following quotations will illustrate this point: "There is a complication in the menacing, incipient stage of phthisis in young women, which very often occurs; *amenorrhœa*. And this is occasionally a lucky symptom for them. Their own minds are ever impressed with a conviction, that this irregularity is the sole cause of all their ailments, debility, dry cough, shrinking. And, if their family surgeon takes the same view, they have a good chance of recovery. If this uterine torpor did not co-exist, then phthisis would be diagnized [*sic*], and the usual routine of blistering plasters, leeches for pains, merely muscular, of foxglove for quickness of pulse, would be instituted, and the usual result would occur. But, fortunately, the surgeon himself does now and then look on this functional effect as the efficient cause. And, as *this* disorder is notoriously cured by tonic medicines, good diet, pure air, and horse-exercise, so these are hopefully prescribed; and cough, rapidity of pulsation, thinness, all vanish. The young lady is cured of commencing phthisis when she was occupied with a different idea. She has had a narrow escape." (p. 46).

This is bad enough, but our author speaks even more plainly elsewhere. "Is it so clear that the cold and cough, which end in phthisis and the early grave, are so abstractedly fatal? As I live, I believe that numberless cases are lethal, through medical meddling." (p. 40).

"Let people themselves see the simple logic of the question. If mankind are not one whit the better for being physicked and *narcotized* year after year, century after century, is it not high time to suspect that the very physic hath caused this wretched stationary state of things? Almost every other malady hath confessed the power of medicine; is it not time to believe that phthisis is not to be healed by medical *art*; that art has paralysed nature; that the purveyor of animal food, the brewer, the wine merchant, are most probably the best physicians; that the *non-naturals* are after all the natural means of prevention, of cure? That if nature were incompetent, which the meddlers assert or imply, which is by no means whatever proved, art is not less feeble; that art is even pernicious, shortening days which might have been prolonged; exasperating existence, which nature would have soothed; nay, often curtailing life, which might have reached the allotted span. Most implicitly do I believe that, while some few cases of decline may have been cured, under the routine treatment, not *by* it, the huge mass of phthisicals is prematurely despatched. That if, from the first consumptive down to the last victim, art had abstained with respectful diffidence, the human race would have been less decimated, by millions."

We are no drug-fanciers, nor is it to our interest to make our patients swallow unnecessary physic; and therefore we do not belong to the category of those "chatterboxes" with "long tongues *unscrupulously* used," from whom Dr. Hull anticipates opposition to his views; but we do most strongly protest against such wholesale condemnation of all medication; and we can assure the author that, if he had written in a different spirit, and with more cautious language,—if he had given others credit for honesty of purpose and soundness of

judgment; and had not misrepresented the generally received practice, endeavouring to make the public believe that it is essentially lowering in its character, when as he must, or ought to know, the highest and most generally followed authorities insist strongly on the necessity of supporting the patient's strength; he would both have written a better book, and have secured a more attentive consideration for the sound advice which he does sometimes give.

On the Operation for Strangulated Hernia. By H. Hancock, F.R.C.S. Eng. pp. 94. London, 1850.

The subject of Hernia is a battle-ground, on which many knights are ever ready to break a lance in defence of the most opposite and conflicting opinions. The champions for the various modes of practice are pretty equally divided in number, and very fairly matched. If a Petit, an Aston Key, and a Bell, opposed the opening of the sac, the opposite proceeding has been advocated by a Dupuytren, an Astley Cooper, and a Lawrence. Mr. Gay has, in a recent work, enlisted himself under the banners of the three eminent surgeons first mentioned; and in the work before us, Mr. Hancock has come forward to do battle with Mr. Gay and all other comers, not only on the point mentioned, but on others scarcely less important.

The first question, then, on which Mr. Hancock joins issue, is that of the propriety of laying open the hernial sac; and if ever the oft-quoted remark of the squire of the knight of La Mancha was applicable, it is so to the case in point. Much may, indeed, be said on both sides; and, though with such conflicting evidence as can be adduced, we must decline attempting to adjust the balance, we shall not shrink from expressing our opinion.

There can be no question, that the opening of the sac enables the operator to obtain much important information which could not be gained in any other way. It is no small matter to be in the dark as to whether the intestine be healthy, ulcerated, inflamed, or gangrenous; whether adhesions confine it to any part of the sac; whether the omentum be healthy, or otherwise; what is the condition of the sac, the number of protrusions, and, above all, the precise seat of stricture. To learn all this with certainty, we must open the sac; and when we consider the knowledge derived from that proceeding, we certainly think the advantages more than counterbalance the objections. We do not pretend to say, that an incision into the peritonæum is a trifling affair; but we certainly think, with Mr. Hancock, that its danger has been exaggerated. We have strongly impressed on our minds certain cases we have witnessed, in which the most unexpected complications were discovered on the sac being laid open;—complications which were not suspected, and which would have killed the patient had they not been brought to light.

A remarkable illustration of this is afforded in a case communicated to Mr. H. Hancock by Sir J. Fife. He operated for Femoral Hernia on a woman. The operation was, apparently, completed in a few minutes; but on Sir J. F. passing his finger into the abdomen, to make sure that all was clear, he found the intestine bound to the iliac artery by an adhesion so strong, that a knife was required to divide it. The intestine was freed; but the gush of blood which took place showed what had happened. With equal promptitude and skill Sir John extended the wound, passed a ligature round the iliac, and the patient recovered without a bad symptom. Certain tables have been published, from which it would appear, that the mortality has been far greater in instances in which the sac has been opened, than where the contrary practice has been pursued; but Mr. Hancock has analyzed these tables, and satisfactorily shown that the impression intended to be conveyed by them, is not by any means borne out on an investigation into the actual causes of death; as, in a considerable number, the fatal result was not attributable to the nature of the operation, but arose from causes quite independent of it.

Mr. Hancock is strongly adverse to the employment of the taxis beyond

certain limits. In this we entirely agree with him, feeling satisfied that the risk of a fatal result is infinitely increased by the irritation and violence too often connected with long-continued and ill-directed efforts at reduction. Our own impression is, that if, after a fair trial of the taxis, skilfully applied, the Hernia is not reduced, further manipulation ought not to be attempted. Mr. Hancock recommends the use of chloroform, as superseding the necessity for the warm bath, bleeding, and tobacco. It is likely to prove a valuable auxiliary; and as to the employment of tobacco, if we were so unfortunate as to be the subject of Strangulated Hernia, we would rather submit at once to the operation, than trust to the slender chance of success afforded by the use of that potent, but dangerous and capricious, drug.

Another point on which much stress is laid by Mr. Hancock, is the avoidance of purgatives after the operation. A little reflection would show that, in the inflamed, irritable, and unnatural condition in which the bowel must be after incarceration, soothing measures are more rational than those which would tend to excite irritation. If, therefore, it be necessary to open the bowels, mild enemata afford the least objectionable mode of proceeding. We should never forget that our business is simply to assist nature; and it is both dangerous and unnecessary to be over-officious. To tranquillize the system, Mr. Hancock employs opium freely. On this point we would remark, that, with some persons opium disagrees so much, that, in our opinion, it is always prudent, before prescribing it in any case where vomiting is likely to be injurious, to ascertain, if possible, whether it does agree; if not, hyoscyamus would be preferable.

In conclusion, we recommend this work to our readers, as a sensible and practical exposition of the subject. That it may not meet the views of every one, is very possible; but the facts are so clearly put, and so ably argued, that it must leave a favourable impression on the minds of all, even of those whom it fails to convince.[1]

Surgical Anatomy of the Arteries, and Descriptive Anatomy of the Heart. By the late V. Flood, M.D. New Edition, by J. H. Power, M.D. pp. 189 Dublin, 1850.

The preface to this edition bears date November 1849, from which circumstance, as also from the statement of the editor, we were led to expect that such a revision had been made, as would have brought the information conveyed, up to the standard of the present day. In this, however, our expectations have been disappointed; and we shall point out instances in which, for the sake of correctness, a little more attention in the editor would not have been misplaced. We are told that the operation of tying the right subclavian artery in the first part of its course was first performed by Professor Colles, of Dublin; then by Mr. Hayden, and afterwards by Mr. O'Reilly, both of the same city. Particulars of these cases are given; and as no allusion is made to any other example of this operation, it might naturally be inferred, that the three mentioned were the only instances in which it had been undertaken. We learn, however, from Dr. Hargreave, that there are *ten* cases on record, in which this operation has been performed; although, in every one, death from hæmorrhage was the discouraging result.

Whilst on the subject of subclavian operations, we may mention, that in the *American Journal of Medical Sciences* for January 1849, a very remarkable deviation of the left subclavian artery is described, combined with a singular and embarrassing condition of the neighbouring parts. The patient, who was considerably deformed from spinal curvature, was the subject of subclavian aneurism, and the artery was found to pass obliquely upwards, parallel to, and about an inch from, the external border of the trapezius. The first rib,

[1] Our readers will find some important discussions on Hernia, by Mr. Hancock and others, in the reports of the Westminster Society, given in our volume for 1849; and also at page 100 of last number.

and part of the second, passed obliquely across the neck above the clavicle, and the tubercle of the first rib was not sufficiently developed to be manifest to the touch; notwithstanding all these difficulties, Dr. Mason Warren successfully ligatured the artery. The particulars are given at p. 381 of our volume for 1849.

To return from this digression. It is stated in the work before us, that "both common carotids were tied successively by Dr. Mussey, of New Hampshire, in America, for aneurism by anastomosis on the crown of the head; between the two operations there were only twelve days interval; the tumour was subsequently removed, and the patient recovered". (p. 34.) This being the solitary instance mentioned, some of our readers may be surprised to learn, that in *ten* published instances, ligatures have been applied to both carotids, for various diseases.

A tendency to temerity is a very common failing with surgeons in the early part of their career, and it is therefore desirable not to stimulate such a tendency by under-stating the danger of the more serious operations. We find it remarked, at page 34, that "the possibility of tying the carotid without impairing the functions of the brain, has been abundantly proved by dissection". It would perhaps have been well to have added a caution against the rash or hasty performance of the operation. In twelve, out of thirty-eight cases in which the carotid was tied for aneurism, serious symptoms were manifested, in the brain, after the application of the ligature; and in vol. xxix of the *Medico-Chirurgical Transactions*, there are two strikingly instructive fatal cases recorded by Mr. Vincent.

A little investigation into the statistics of surgery would have corrected the statement which we presume was made in the first edition of Dr. Flood's book (which we do not happen to have at hand), to the effect, that the arteria innominata has been tied "about six times on the human subject". *Nine* instances are recorded, in which ligatures have been placed on that vessel; and in three others, the operation was commenced, but abandoned without the object being attained.

The description of the branches of the internal maxillary artery is concluded by the remark, that in cases of *hæmorrhage after the extraction of teeth*, "we may plug up the socket, or apply the actual cautery, or, if practicable, the tooth may be replaced". The student should, however, know, that there are yet two other modes, preferable (in our opinion) to either of the above. The first is the application of turpentine, which seldom fails, more especially if administered internally, as well as applied locally: the second is to place a small piece of matico leaf on the end of a piece of cork cut to the size of the tooth which has been extracted, introduce that into the socket, and let the patient bite upon it; this will answer far better than the clumsy replacement of the tooth.

Dr. Power speaks of the treatment of aneurism by compression, as one of the greatest achievements in modern surgery; and states, that in Dublin, it has almost entirely superseded the use of the ligature in cases of popliteal aneurism. In the hands of Dr. Bellingham, Mr. Greatrex, Mr. Newcombe, and more recently Mr. Tuffnell, the treatment by compression has been attended with great success. Some distinguished surgeons, however, are strongly in favour of the ligature; and no one more so than Mr. Syme, whose strictures on the treatment by compression are well deserving of perusal. They are not, however, alluded to by Dr. Power; and we may mention, *en passant*, that a little national prejudice seems to have reigned during the composition of the work before us; for the frequency with which the names of Irish surgeons occur, as compared with others, is quite remarkable.

At the present day, the illustrations to anatomical and surgical works are usually as remarkable for artistic excellence as for correctness of design. We need only refer to Dr. Carpenter's *Manual of Physiology*, Mr. E. Wilson's *Anatomist's Vade Mecum*, and Mr. Fergusson's admirable work on surgery. In

this respect, the volume before us falls far short of its competitors, for there is no disguising the fact, that the wood-cuts are, to use the mildest term, exceedingly inferior.

We have felt it our duty to offer these remarks, not in any carping or unfriendly spirit, but because we think that the execution of a book should bear out its pretensions. We readily admit that Dr. Flood's work was originally one of the best of its day; but should a third edition be required, the editor would do well to bestow more pains upon his charge, in order that it may be more fully brought up, in letter as well as in spirit, to the superior information and extended knowledge of the present age.

Lecture Introductory to a Course of Clinical Medicine, delivered in the Glasgow Royal Infirmary, on the 13th November, 1849. By J. A. Easton, M.D. pp. 20. Glasgow: 1849.

This is a very sensible Introductory Lecture, and indicates that the Clinical Department of the Glasgow School of Medicine is in a sound state. This we rejoice to know; for, from the large population of that city, from the celebrity of its ancient University, and from the influence which attaches to the School of Medicine connected with the Andersonian College, a large number of the medical practitioners of Scotland must continue to be educated there. It is, therefore, matter of congratulation, that the museums, hospitals, and medical professors of Glasgow, are fully competent to supply such an education, as is commensurate with the present advanced state of medical science. In a foot-note, Dr. Easton gives the following interesting particulars:

"The Advantages of the Glasgow Royal Infirmary as a School of Practical Medicine and Surgery, have been so well set forth by my esteemed colleague Dr. M. S. Buchanan, in a Clinical Lecture, delivered under circumstances nearly similar to the present, that to insist any farther on such a topic is almost superfluous.[1] Yet, I may be permitted to remark, that in that Institution there are four hundred and sixty beds, that three thousand patients are admitted annually, and that the average number of surgical operations in a year, is one hundred and twenty. Attached to the Hospital, there is also a Dispensary, at which are treated annually six thousand out-door patients. Students have the opportunity of seeing the practice of the Hospital for two years, and of hearing the Clinical Lectures on Medicine and Surgery, which are delivered four times weekly, and all this for the sum of £7. 7*s*. To constitute a good Medical School, whatever else may be required, two things at least are essential, not only to its success, but to its very existence—abundance of subjects for anatomical purposes, and an extensive hospital. Now, neither of these essentials can be obtained excepting in localities where the population is not only large, but comprehensive of all grades of society, and where public works are numerous, varied, and extensive. Can the same facilities, then, for studying medicine be found in places in which the inhabitants are few comparatively in number, and nearly similar in grade and vocation? For example, can Galway, with its thirty-three thousand fishermen, kelp-manufacturers, exporters of pigs, flour, meal, and bacon, (vide M'Culloch's *Geographical Dictionary*, article 'Galway',) be expected to furnish the essentials alluded to above, as constituting the foundation of a Medical School, in the same degree or extent, that the flourishing and public-spirited town of Belfast can, with its busy population engaged in the diversified arts which spring from talent, enterprise, and industry? Or can Belfast, even with its daily increasing population, be supposed to furnish the essential pre-requisites for the study of medicine, that are afforded in a place like Glasgow,—the second city in Great Britain—and in which the population is increasing in the ratio of nearly ten thousand annually,—an increase not equalled, certainly not surpassed, by any other place in the United Kingdom?"

[1] An analysis of the Lecture will be found in the *Edinburgh Monthly Journal* for 1844, p. 590.

Our limits prevent us from giving extensive extracts from Dr. Easton's excellent and well-written exposition of the way in which disease ought to be observed and studied; but we must say that it is fully equal to any thing of the kind which could have been brought forward on such an occasion. The following sentences,—specially applicable to Glasgow, situated, as it is, in the midst of a mining population, and with its own dissipated and improvident artisans crowding the hospitals,—may probably be taken as an indication of Dr. Easton's method of instruction:—

"If the patient have been addicted to *intemperate habits* (as is the case, I am sorry to say, with too many of our patients), then you may have to deal with a prostrated nervous system, possibly with a softened brain, a cirrhose or tuberculated liver, a granular kidney, and almost invariably with a thickened gastric mucous membrane. Not that I mean to affirm that, in such persons, *all* these abnormal deviations, or even any one of them, must of necessity be present; but the very knowledge that they *occasionally* occur, ought to ensure a minute examination as to their presence or absence. Again, a knowledge of the *occupation* of the patient frequently furnishes a clue to the disease under which he labours. Thus, it is well known, that masons and knife-grinders, partly in consequence of pursuing their calling in the open air, during all vicissitudes of weather, and partly also from the introduction into their lungs of irritating particles from the materials on which they manipulate, are prone to pulmonary diseases; and to the same diseases, likewise, are book-printers liable, in consequence of the constrained position into which the chest is forced during their laudable exertions to promote the diffusion of knowledge. Again, the melanotic sputa, the rounded thorax, and the dingy complexion, proclaim that the unhappy possessor of them has habitually inhaled a carbonaceous atmosphere, in

'Subterranean caverns shunning the light.'

Having noted these, and many other circumstances, which your time will not permit me even to name, regarding what is called the previous history of the patient, you then proceed to ascertain his present condition. And here the examination consists of two parts,—the *subjective* and the *objective*. In pursuing the former, we listen to the patient's own statements; or we give a direction to these by putting a few leading questions, and thus obtain a knowledge of his own view of his case, so to speak, and become acquainted with his sensations, normal as well as abnormal, commencing our examination possibly at the head, and, if necessary, extending our inquiries downwards, through every part of the body."

We believe that so early as the year 1827, Clinical Instruction was established in Glasgow, upon a creditable basis; and, perhaps, had the Glasgow Medical Journal then established, continued to publish its valuable additions to practical medicine and surgery, the reputation of the school might have been higher, and its advantages better known. Since 1841, the *Edinburgh Monthly Journal* has published some good original memoirs by the physicians and surgeons of Glasgow.

The remuneration of the medical profession in Glasgow—to the disgrace of her merchant princes, be it said—is miserable in the extreme; and it is notorious, that the most eminent men in the profession, from the smallness of the fees, are obliged to undertake such an amount of general practice as necessitates greater fatigue and physical exertion than are compatible with sustained scientific research and literary occupation. To those who enjoy University endowments we do not allude; but to others of equal repute, who, we have good reason to believe, are more worn out by the toils of ill-paid daily practice than is proper or reasonable. The teachers of an efficient medical school must either be adequately paid for their services, or the recipients of the large fees of a metropolitan practice. Leisure, reading, and reflection, are almost as necessary to the clinical professor as opportunities of observing disease.

PRACTICAL TREATISE ON INFLAMMATION OF THE UTERUS AND ITS APPENDAGES. By JAMES HENRY BENNET, M.D. Second edition. pp. 527. London: 1849.

(Concluded from p. 1038 of the volume for 1849.)

In November last, we pointed out the importance, in practice, of recognizing the two facts, that inflammation of the cervix is a very common disease, and that inflammation of the body of the womb is a very rare affection; and by extracts from Dr. BENNET's work, we laid before our readers the anatomical conditions which explain this difference. We now proceed with our analysis; refraining from saying more at present upon these points. The very interesting discussions in connexion therewith, which have recently engaged the French Academy of Medicine, we shall lay before our readers upon an early occasion.

INFLAMMATION OF THE BODY OF THE UTERUS, apart from that which is connected with the puerperal state, occupies the third chapter. It is considered with reference to degree, as to whether it be *acute* or *chronic;* and with reference to its seat, as to whether it attack the entire body of the uterus, the peritoneum, or the internal mucous lining. Dr. Bennet believes that inflammation of the lateral ligaments is often mistaken, even by experienced practitioners, for inflammation of the body of the uterus. "The chief *causes* that tend immediately to induce acute metritis are, arrested menstruation, sexual excesses, and the extension of chronic inflammation from the neck of the organ. To these I would also add, as occasionally acute inflammation, all kind of surgical interference with the uterine organs, such as cauterization of ulcerations of the cervix, the use of vaginal injections, of pessaries, etc. Any influence that suddenly arrests menstruation, such as exposure to cold or damp, wet feet, or mental emotions, especially in its incipient stage, may give rise to acute metritis. These latter causes are generally considered to be capable of occasioning acute inflammation, even in the interval of menstruation. I have very seldom, however, observed it in the unimpregnated uterus apart from the menstrual period, except as the result of some physical injury—of a blow, of a severe fall, or of cauterization of the cervix. This latter cause of inflammation acts, it must be remembered, on an organ, the vitality of which has been raised by the existence in its immediate vicinity of inflammatory disease, generally of a chronic nature. Although of rare occurrence, acute metritis having this origin is occasionally met with by those who have great opportunities of observation." (p. 26.)

ACUTE METRITIS. The *Symptoms* are local, and general or sympathetic. "The inflamed uterus is so exquisitely painful, that the slightest pressure exercised directly upon it, through the vagina, occasions severe pain, often giving rise instantaneously to a sensation of nausea. Notwithstanding this excessive sensitiveness of the uterus, it is possible in every case to ascertain, without putting the patient to any great amount of pain, that it is the uterus itself which is the seat of inflammation, and not the adjoining tissues. The sensitive tumour is the immediate continuation of the cervix, occupying the median line, and is equally painful and evident on the right and on the left of that line; unless, however, the uterus be naturally lying transversely from right to left, as is sometimes the case, when the inflamed organ will extend more to the right than to the left side. This is a very important practical point to determine, as in inflammation of the lateral ligaments, the tumour formed by the inflamed tissues is generally applied, annexed, as it were, to the side of the uterus, so as only to form one mass. Owing to the great sensitiveness of the uterus if touched or moved, directly or indirectly, the patient is unable to walk, or even to stand; and when sitting up in bed (a very painful position), the body is generally so inclined as to take off all strain from the abdominal region. When lying down, the patient always remains on the back, that being the position in which the uterus presses

least on the surrounding organs. The passage of the fæces through the rectum is often attended with very great pain, owing principally to its position immediately behind the uterus. This is more especially the case when the motions are constipated. They are then sometimes coated with mucus, showing an irritable state of the rectal mucous membrane. There is also, frequently, considerable irritation and pain about the bladder, accompanied by more or less marked dysuria. The vascular and nervous connexion between the uterus, the rectum, and the bladder, is too intimate, for these organs not all to suffer when one of them is severely inflamed." (p. 28.) There is generally considerable febrile reaction : and the breasts—one or both—are often sympathetically affected. Acute metritis generally terminates in *resolution* within from five to ten days, suppuration being extremely rare, in consequence of the absence of cellular tissue in the structure of the body of the uterus. The affection may become chronic, or it may extend to the lateral ligaments. Dr. Bennet has never seen acute metritis terminate fatally in the unimpregnated condition, and there are very few such cases on record. The author remarks that this is "owing to the inflammation so seldom extending to the peritoneum, and to the uterus not being an organ having functions to perform necessary to the preservation of the individual. A vast amount of uterine disease may consequently exist, without life being directly endangered." (p. 30.) But, although not a disease dangerous to life, it is one which, if neglected or mismanaged, by becoming chronic, may occasion serious and prolonged suffering. Perhaps inflammation of the womb is very often not suspected by the practitioner ; in many instances, the case being subjected to no rigorous diagnosis, and regarded vaguely as inflammation of the bowels. With Dr. Bennet, we say that—" Treatment based on such obscure notions of the real state of the patient, is apt to fall short of the necessities of the case, to partially subdue the morbid symptoms only, and to leave behind the seeds of future and more intractable disease."

Chronic Metritis is very well described : and it is instructive to observe, that the general symptoms are really those which are popularly, and even in the profession, too little recognized as being associated with a morbid and remediable state of the womb. We are very far from wishing to detract from the paramount importance and necessity of much that is embraced in the common treatment of hysteria, but we believe that a better direction would often be given to our curative efforts, if it were more generally understood that the condition of the womb was often the essential cause of the derangement of the nervous system. Over and over again have we seen a wretched state of general health, and nervous symptoms the most anomalous, subside under the active and successful treatment of a leucorrhœa, which had been long looked on as an evil only to be got rid of when the general health was restored.

Internal Metritis or Uterine Catarrh—as defined by Dr. Bennet—is a rare disease :

"It has only been considered common because it has been confounded with inflammation of the *cavity of the cervix*,—a disease which, on the contrary, is very often met with. The mucous membrane that lines the cavity of the cervix, as we have seen, instead of being rudimentary, like that which lines the uterine cavity, presents a certain thickness, is plaited in folds, is abundantly studded with mucous follicles, and presents a more extensive surface than the uterine mucous membrane. It is not generally known, that the uterine cavity, in the unimpregnated state, is exceedingly limited in extent ; so much so indeed, that, according to M. Vidal de Cassis, who made, some years ago, many careful experiments, in order to ascertain its capacity with reference to the use of injections in the disease we are studying, the uterus of a full-grown woman does not contain more than from nine to eleven minims of fluid. The cavity of the healthy cervix, if distended, contains

about as much. The two cavities are distinctly separated one from the other, as I have explained, by a constriction, or natural sphincter, which has not been described by anatomists, but which is sufficiently powerful to offer a decided obstacle to the introduction of the uterine sound into the cavity of the uterus, in the healthy state. The existence of this constriction was first pointed out to me, some years ago, by Dr. Simpson of Edinburgh, as an indication of a morbid condition; but my subsequent researches have led me to believe that it exists in the healthy state, and that it is not *necessarily* morbid, even when carried to such an extent as to render the introduction of the uterine sound impossible. The cavity of the cervix is also deeper by half an inch than that of the uterus itself. The uterine sound, when passed into the uterus, is concealed to the extent of two inches and a half; of which, one inch and a half occupies the cavity of the cervix, whilst one inch only is in the uterus.

"The above anatomical facts will at once explain the cause of the error into which even the latest continental writers on uterine catarrh have fallen. Whenever, on examining the cervix with the speculum, muco-pus is observed issuing from the os uteri, they conclude, without further examination, that it proceeds from the *cavity* of the uterus, and that the latter is the seat of inflammation. They do not reflect that the muco-pus *may* proceed, as it really does in nineteen cases out of twenty, from the cavity *of the cervix*. The result of a careful examination of all the cases of inflammation of the cervix uteri that I have seen during the last three years, amounting to between five and six hundred, with reference to this point, has shown me that, in the immense majority, the inflammation does not extend into the cavity of the uterus. I have been led to this conclusion by the observation of the following facts: Firstly. The dilatation which invariably *accompanies* inflammation of the cavity of the cervix, does not, generally speaking, extend to the internal constricted point, or 'os internum'; the latter remaining contracted, so as not to allow the free admission of the sound into the uterine cavity. Secondly. Therapeutical means, carried so far only as the morbid dilatation exists, or to the os internum, effectually cure the inflammation, and put a stop to the discharge.

"In some few cases, on the contrary, the os internum participates in the relaxation of the cervical cavity, so that the sound passes freely into the uterus,—the two cavities communicating. When this is noticed, the cavity of the uterus may or may not be inflamed; if it is, the discharge from the os uteri is more abundant, and presents peculiar characters; the local and general symptoms are rather different; and, what is conclusive, therapeutical agents carried into the cavity of the cervix alone, may not be sufficient to effect a cure. These latter cases are really cases of Internal Metritis, or uterine catarrh. The former (by far the more numerous) I look upon as cases of inflammation of *the mucous membrane lining the cavity of the cervix only, or of cervical catarrh.*

"*Causes.* All the causes which give rise to acute or chronic Metritis, may also occasion Internal Metritis. It appears, however, to be generally met with in practice, as the result of the lengthened existence of inflammatory disease of the cervix and of its cavity. The inflammation gradually progresses along the cavity of the cervix until it reaches the os internum, and passes into the uterus. Indeed, considering the extreme frequency of inflammation of the entire cavity of the cervix, it is only surprising that the disease should so generally stop at the internal sphincter of that organ. The cause, however, of this clinical fact is, no doubt, the change in the structure of the mucous membrane, which commences at this point.

"Among the causes most likely to give rise to Internal Metritis, a prominent position must be given to the inflammations that occur after parturition and abortion. When inflammation of the uterus follows the expulsion of the ovum, the surface on which the placenta was implanted, is peculiarly

liable to be attacked, and the seeds of chronic inflammation of the uterine lining membrane may thus be sown. In some exceptional cases, blennorrhagic inflammation may be a cause of Internal Metritis; the inflammation gradually extending from the vagina to the cervix, to its cavity, and to that of the uterus. This, however, I believe to be much less frequently the case than has been asserted.

"*Symptoms.* Internal Metritis being nearly always complicated by inflammation of the cervix, of its cavity, or of the substance of the womb, its symptoms are rather difficult to unravel; so difficult, indeed, that I do not believe the task has yet been accomplished satisfactorily by any writer. Internal Metritis may be said to exist to a certainty, if the os internum of the cervix is so completely open as to allow the uterine sound to pass freely into the uterine cavity; if that cavity is increased in size, and more sensitive, and if, likewise, there is a more or less abundant *sero-sanguinolent* discharge, accompanied by dull, deep-seated pain in the region of the uterus itself,—that is, behind and slightly above the pubis,—and by a certain amount of general febrile reaction.

"The sero-sanguinolent discharge is the most important of these symptoms; indeed, it may be said to be as characteristic of Internal Metritis as the rust-coloured expectoration is of pneumonia. The presence of blood in the secretion from the inflamed mucous surfaces is, in both cases, owing to the same cause—viz., the absence of an epithelial covering. The epithelium ceases to exist in the cavity of the uterus as in the cells of the lungs; and, when this is the case, the blood corpuscules exude in inflammation, and blood is expelled mingled with the secretion of the inflamed surface. This sanguinolent discharge, however, is not always present when there is inflammation of the interior of the uterus. It is only when the inflammation is severe, or in its period of greatest intensity, that it is observed. At the onset, in the period of decrease, and sometimes throughout the entire duration of the disease, the secretion may be merely muciform or puriform. When congestion alone remains, it may consist only of transparent mucus. If this is the case, it becomes more difficult to distinguish Internal Metritis from inflammation of the cavity of the cervix, in which the same discharges are present; in both, they may be seen issuing in a thick stream from the os uteri, when the cervix is brought into view with the speculum. We can then only be guided by the amount of the discharge, by the morbid dilatation of the os internum, and by the other symptoms which I have enumerated.

"In the healthy unimpregnated uterus, as I have stated, the cavity of the uterus is only one inch in depth, and so extremely small as merely to contain a few drops of fluid; consequently, the uterine sound, once introduced, has but an exceedingly limited range of motion. In Internal Metritis, the cavity of the uterus is dilated, increased in size, and the uterine sound moves with more freedom; the presence of the sound in the uterus, and its contact with the walls of its cavity, seem also to be attended with more pain than usual. This symptom, however, cannot be much depended upon, as the introduction of the sound generally occasions pain even in the healthy uterus; not unfrequently giving rise to nausea and faintness. Indeed, the cavity of the uterus appears to be naturally as sensitive as that of the cervix, and its os is little so.

"Internal Metritis is nearly always accompanied by a dull, aching pain in the back or ovarian regions, similar to that experienced in inflammation of the cervix, and by deep-seated pain in the region of the uterus. The uterus is generally rather swollen, enlarged and sensitive to the touch, the entire organ being in a congested, irritable state. Internal Metritis is also often accompanied by a slight amount of febrile reaction, occurring at intervals, after exertion, instrumental interference, or at the monthly periods. The catamenia are often disordered, generally manifesting themselves more frequently and more abundantly, lasting longer, and being attended with

more pain than usual. Sometimes the flow of blood is so great and so lengthened as to constitute flooding; and this is more especially observed, as might be anticipated, when the sero-sanguinolent discharge is present. With some patients, however, on the contrary, the menstrual secretion appears to be diminished; but in either case it may be laid down as a rule, that the disease is aggravated by the appearance of menstruation. In addition to these symptoms, all the general sympathetic reactions which are observed in chronic metritis, and in chronic inflammation of the cervix, may be present. As Internal Metritis is generally complicated by these diseases, we may also have the peculiar symptoms which they present.

"In some rare instances, inflammation of the lining membrane of the uterine cavity is followed by ulceration. When this is the case, the cavity of the uterus becomes considerably enlarged, and large quantities of pus, blood, and mucus, collect within it, and are expelled through the os uteri. Dr. Hall Davis exhibited, a short time ago, to the Pathological Society, the uterus of a woman thus affected, who died under his care; there were several large ulcerations on the internal surface of the organ. There are other cases on record; but this termination of Internal Metritis is undoubtedly very rare. The rudimentary mucous membrane of the uterus does not seem very liable to the ulcerative stage of inflammation.

"From what precedes, it will be evident that, although a careful digital examination, combined with the use of the uterine sound, enables us to appreciate many of the symptoms of Internal Metritis, yet we can only obtain all the information we require to form a diagnosis, by carefully examining with the speculum the condition of the uterine organs. The cervix should be brought completely into view, in a good light, so as to enable the medical attendant, not only to ascertain its precise condition, and that of the inferior and external portion of the cavity of the cervix, but likewise to appreciate the amount and precise nature of the discharge that issues from the os uteri.

"*Progress, Termination, Prognosis.* Internal Metritis, when acute, and a mere complication of inflammation of the body of the uterus,—as is often the case when the immediate result of parturition or abortion,—not unfrequently terminates by resolution. Sometimes, even in these cases, it passes into the chronic form. Apart from the puerperal condition, it is generally observed in the chronic stage. Once it has become chronic, it may perpetuate its existence indefinitely, if unmodified by treatment. Like all other uterine inflammations, it is often kept alive, even in the best constitutions, by the periodical exacerbations occasioned by the monthly molimen hemorrhagicum. Indeed, owing in a great measure to this cause, it is very rarely that we see Internal Metritis, once it has attained the chronic stage, spontaneously terminating by resolution, at least during the persistence of the menses. When the latter have definitely ceased, this form of uterine inflammation, like those which we have studied or shall study, may gradually yield, and eventually disappear under the mere influence of the modified functional and structural vitality of the uterine organs. Confirmed Internal Metritis may exercise a sufficiently severe sympathetic influence over the constitution to debilitate the patient thoroughly, and to occasion death indirectly, by exposing her, thus weakened and reduced, to the development of cachectic and accidental affections.

"*Pathological Anatomy.* I have repeatedly seen the surface of the uterine cavity presenting the anatomical evidences of inflammation, in patients who have died of puerperal inflammation at various periods after their confinement. The internal surface of the uterus was then red, swollen, congested, and covered with a thin coat of muco-pus; but I have only once seen a uterus presenting evidence of this form of disease in the non-puerperal state; it was in the case of internal uterine ulceration, observed by Dr. Hall Davis, to which I have alluded. The mucous membrane presented several large in-

flammatory ulcerations, situated on the internal surface of the uterine walls, and quite distinct from the cavity of the cervix, which appeared free from inflammation. There was, however, considerable disease of the uterus present, besides the inflammation of its cavity. The organ was much enlarged, its walls thickened, and its cavity greatly dilated.

"*Diagnosis.* The elements of a correct diagnosis of this disease are to be found in the account which I have given of its symptoms. Internal Metritis presents so many points of contact of inflammation of the cervix or of the body of the uterus, that the diagnosis can only be satisfactorily established by a rigorous analysis of the symptoms of all these diseases; with which, moreover, it is generally complicated. I may, however, remind the reader, that Internal Metritis is generally confounded with acute or chronic metritis, but more especially with inflammation of the lining membrane of the *cavity of the cervix*. In acute metritis, there is much more febrile reaction, greater local pain, and more sensibility of the uterus. In chronic metritis, there is a marked *partial* sensibility of the uterus, accompanied by local changes in its volume. In inflammation confined to the cavity of the cervix, muco-pus oozes out of the os uteri, and the cavity of the cervix is dilated, but the os internum remains closed. Moreover, although the mucoso-puriform secretion may be streaked with blood, it is not *mingled* with it, as in the acute stage of Internal Metritis. There is not that sero-sanguinolent, sanious discharge which characterizes this latter disease, nor the often severe reactional symptoms to which it appears to give rise.

"As I have already stated, it is to inflammation of the cavity of the cervix that we must refer nearly all that has been written of late years by continental writers respecting Internal Metritis. They are evidently quite ignorant of the normal existence of the internal sphincter on which I have found it necessary to lay such stress, and do not appear to have any clear view of the comparative length of the two cavities of the cervix and of the body of the uterus. Consequently, they have concluded that the injections, which they used therapeutically, penetrated into the interior of the uterus, and cured the internal uterine inflammation which they supposed to exist; whereas, in reality, the disease must have been nearly always confined to the cavity of the cervix, and the remedies used cannot have penetrated beyond the os internum, that is, beyond the sphincter, which separates the two cavities."

It will be observed that, in the above extract, Dr. Bennet makes a statement regarding the stricture between the cavities of the cervix and body of the womb, which runs counter to much that has lately been written by Dr. Simpson of Edinburgh, and his followers, as to the uterine sound. Dr. Bennet's assertion, that the arctation may be such as to prevent the entrance of the uterine sound, and yet be not a morbid condition, if correct, would go far to displace from practice the Edinburgh dilatation method of treating certain cases of dysmenorrhœa and sterility; and it would likewise point out a difficulty in the way of catheterism of the Fallopian tubes, which has not yet been weighed. Having already given the anatomical statements which bear on this stricture being normal or morbid (unless when temporarily absent during menstruation), we can only call attention to the important practical questions, which depend upon the point being correctly settled, and not left, as at present, with authorities of high repute, and most ample experience, making opposing statements.

Inflammation and Abscess of the Uterine Appendages: Ovaries, Fallopian Tubes, and Cellular Tissue. This is an important chapter, upon a subject which, although exidently not unknown to the ancients, receives but little satisfactory consideration, even in the best modern works. This is the more remarkable, as abscesses in the lateral ligaments were well described by Puzos. We consider this chapter very valuable, especially that part of it devoted to Inflammation and Abscesses of the Uterine Append-

ages in the non-puerperal state. In non-puerperal women, inflammation of the lateral ligaments is most commonly confined to the "cellular tissue, and to the organs contained between them, and does not extend to the free cellular tissue of the pelvic cavity"; and Dr. Bennet supposes that, in the puerperal form, the disease is, at least at first, similarly limited. These abscesses generally open into the rectum or vagina; and the escape of the pus is often the first notice which the patient, or the medical attendant, receives as to the exact nature of the affection. The two diseases with which inflammation of the lateral ligaments is most likely to be confounded, are acute metritis and abscess of the iliac fossa. In the puerperal state, abscess of the lateral ligaments is generally associated with extensive abdominal and pelvic inflammation; and it is not easy to determine in what structure the inflammation has commenced.

Inflammation, Ulceration, and Hypertrophy of the Neck of the Uterus. This subject is treated by Dr. Bennet under the following heads:

1. In the virgin female.
2. In the pregnant female.
3. During and after abortion and parturition.
4. In advanced life, after the cessation of menstruation.
5. As a concomitant of polypi and of fibrous tumours of the uterus.

This portion of Dr. Bennet's work occupies 160 pages, and contains a very luminous account of the whole subject. At the same time, we cannot help saying, that the same ideas are frequently repeated; and that, by abridgment, the value of the matter would not be diminished. There is also another point, which deserves notice; and that is, the complete hold which the author's favourite subject has acquired over his mind. We see, as it were, an inability on his part to recognize any other cause of deranged female health, than Inflammation of the Uterus and its Appendages; and, in particular, of the cervix. At the same time, it must be admitted that Dr. Bennet has rendered essential service to obstetric medicine, by proclaiming the true pathology of many cases, hitherto regarded incurable, of leucorrhœa, dysmenorrhœa, menorrhagia, amenorrhœa, irregular menstruation, and partial prolapsus. He has also pointed out the causes and treatment of abortion and sterility in women who, some years ago, and even yet, we fear, might in many instances be subjected to treatment, the very opposite of what is requisite or proper. We would particularly draw attention to the general derangement of health, which exists in connexion with Inflammation of the Neck of the Uterus. We quite agree with Dr. Bennet, in thinking that digital or instrumental examination of the uterus, in unmarried women, ought very rarely to be resorted to: and perhaps we would have recourse to it even less frequently than he would approve of, though nothing could be more satisfactory than the following sentences, in which the subject is adverted to. "It is of the utmost importance that no physical examination should even be thought of in an unmarried female, unless there be next to a moral certainty that inflammation and ulceration of the uterine neck actually exist. Fortunately, a practitioner, familiarized with the disease, may generally acquire this conviction by oral examination of the patient, and by a careful and judicious appreciation of all the elements of the case." (p. 163.) And again, at p. 170, we find the following passage: "Experience having thus taught me, that severe ulcerative inflammation of the cervix uteri is occasionally met with in unmarried females; that it is then the cause of great functional uterine disorder, and of extreme general debility; and that by physical examination only can the disease be fully recognized and treated; I have no hesitation in stating, that such an examination, *in these exceptional cases*, becomes imperative. As, however, an investigation of this nature is a serious matter, and must be equally repugnant to the feelings of the medical attendant and of his patient, it should only be resorted to as an extreme measure—as a last resource. No

practitioner, who has not acquired an accurate knowledge of these forms of uterine disease in married females, ought, in my opinion, to resort to it on his own responsibility, as he may, by so doing, unnecessarily expose his patient and her friends to great mental distress, through his ignorance of the real meaning of the symptoms which she presents. It is only by educating the finger by the eye, that it acquires that delicacy of tact which enables the medical attendant to discover ulceration of the cervix by digital examination. Indeed, I cannot too strongly insist on the practical importance of the fact, hitherto overlooked in this country, that the information afforded by digital examination is alike obscure and useless, until the finger has been educated, and its errors corrected by the eye."

Inflammation and Ulceration of the Neck of the Uterus, during Pregnancy. The remarks on this subject are full of practical interest; and we feel assured, that their general truthfulness will be assented to, by every one engaged in this department of practice. Cases of hæmorrhage during the early months of pregnancy, simulating menorrhagia, and casting a doubt on the existence of pregnancy from their almost periodical recurrence, are sufficiently common, though their true nature is but little understood.

This affection appears to have escaped the notice of all writers, British or foreign, on uterine pathology. The history of its first observation is thus given by Dr. Bennet.

"My attention was first drawn to inflammatory ulceration of the cervix uteri in pregnant females, by M. Boys de Loury, one of the physicians of Saint Lazare, an hospital-prison in Paris, where women of the town labouring under syphilis are confined and treated. The speculum being used with all the patients, as a means of exploration, (with those who are pregnant as well as with those who are not), M. Boys de Loury thus discovered that ulcerative inflammation of the cervix is not uncommon in pregnant women, and that when left to itself, it frequently occasions abortion. I believe that I am authorized to attribute to M. Boys de Loury this great discovery, as I certainly never heard any other practitioner allude in the most cursory manner to the subject, and I am not acquainted even with a hint respecting it in the entire range of medical literature. M. Boys de Loury's discovery was briefly noticed, in 1843, by one of his house-physicians, M. H. Costilhes, in a thesis sustained before the Paris Faculty of Medicine. M. Costilhes' cursory notice was the only one that had appeared of this pathological fact in any language, when the first edition of the present work was published. Since that time, I have devoted great attention to the elucidation of inflammatory ulceration of the cervix during pregnancy, and have ascertained that it is of frequent occurrence, that it is the key-stone to the diseases of the pregnant state, and the most general cause of laborious pregnancy, obstinate sickness, moles, abortions, miscarriages, and hæmorrhage. The results of my researches on these points, as contained in the present chapter, were read before the physiological section of the British Association at Southampton, on September 11th, 1846.

"Valuable corroborative evidence has since been brought forward by Mr. Whitehead, of Manchester, whose laborious and interesting investigations on this subject are contained in the Treatise on Abortion, which he published the following year, in 1847." (pp. 191-2.)

The disease will, on inquiry, be generally found to have existed previous to conception; and this has led Dr. Bennet to modify his opinion with respect to the production of sterility by inflammatory ulceration of the uterine neck. It produces this effect chiefly in young married females, who have not yet become pregnant.

The local symptoms are mostly the same as those which exist in the non-pregnant state, but modified or obscured by the changed state of the uterus. The diagnosis by the touch is rendered difficult by the fact, that both preg-

nancy and inflammation of the neck of the virgin uterus, are alike accompanied by increased volume in the cervix, an open state of the os, and retroversion, coupled with a velvety surface. The affection may, however, be diagnosed even in the early stage of pregnancy, by the following data. "When inflamed and ulcerated, the non-pregnant cervix is usually more or less indurated, whereas in the first months of pregnancy, even when inflamed and ulcerated, it is generally, but not always, soft: the ulcerated os is much more open than is consistent with the period of the pregnancy; and instead of presenting a smooth surface, it has a very peculiar feel, of which the word velvety scarcely conveys an idea. Its surface appears fungous to the touch, and in a more advanced period of pregnancy, of a quaggy, pultaceous consistency. In the midst of this fungous surface may sometimes be felt small, moveable indurations, of the size of a large pin's head, constituted by indurated and hypertrophied mucous crypts. On withdrawing the finger, it will generally be found covered with muco-pus, and sometimes tinged with blood; indeed, the vagina generally contains a great quantity of muco-pus, especially in its upper region." (p. 194.)

Examination with the speculum is somewhat difficult, on account of the retroversion of the cervix; hence Dr. Bennet recommends here the use of a conical bivalve or large conical speculum. The cervix "will be found tumid, congested, of a livid hue, voluminous, soft, or only partially indurated; and on one or both lips, generally penetrating into the cavity of the os, is seen a more or less extensive ulceration, sometimes covered with large fungous granulations." Dr. Bennet considers the luxuriant fungosity to be exclusively connected with the gravid state.

A previously hypertrophied and indurated cervix begins to soften at about the third month of pregnancy; and this, no doubt, accounts for induration of the os at the time of labour being comparatively rare.

The patient complains of pains in the lumbar, hypogastric, and ovarian regions; there is generally a profuse purulent secretion, often mixed with a white flux from the congested cervix and vagina, which may obscure the nature of the affection. There is often hæmorrhage from the ulcerated surface. This may be periodical, and simulate menstruation; but, though Dr. Bennet denies that the hæmorrhage can be assimilated to menstruation, he admits that its periodicity is connected with the periodical *molimen hæmorrhagicum* which accompanies this process.

In speaking of the general symptoms of this affection, which consist in a derangement of the general health, Dr. Bennet offers some valuable remarks on its tendency to produce *abortion*. The symptoms are those which are known to precede abortion; and Dr. Bennet believes, that when miscarriage occurs, the symptoms preceding it are connected, much oftener than is suspected, with inflammation of the neck of the uterus. "It stands to reason, that the existence of ulcerative inflammation of the uterine neck must often occasion such an amount of inflammatory congestion of the entire uterine system, as to be incompatible with the development of the fœtus, even during the first months of pregnancy. Thence the death of the fœtus, repeated hæmorrhage, diseased placenta, the formation of moles, and finally, abortion. If the patient escapes during the first months of pregnancy, the gradual dilatation of the inflamed tissues of the cervix which takes place in the latter months, causes irritation, and exciting the uterus to contract by reflex spinal action, may occasion abortion or premature labour. In a case which I lately attended, the patient, a young married woman of four-and twenty, labouring under severe inflammatory ulceration of the cervix, miscarried five times successively within the first four years of her marriage, at the end of the sixth or at the beginning of the seventh month.

"In some instances, notwithstanding the existence of severe inflammatory ulceration of the cervix, the patient goes to her full time, and is safely delivered. But the fact of extensive ulceration existing at the uterine neck is a

most unfavourable complication to labour, rendering the patient much more liable to metro-peritonitis, and to the accidents which occasionally follow parturition.

"When once under the influence of appropriate treatment, the ulceration, generally speaking, soon assumes a healthier, less luxuriant appearance, then begins to cicatrize, and finally heals. When the progress of cicatrization has fairly set in, and the irritability of the ulcer and of the surrounding tissues has been subdued, there is but little fear of abortion taking place. But until this is the case, abortion is imminent, and may, indeed, be feared daily. In some instances, the morbid change which the disease has occasioned in the uterus and its contents, has progressed too far before the treatment is commenced, and in spite of all our efforts, and even of progressive amelioration, abortion takes place from some of the causes enumerated above. It is necessary, therefore, to apprize the patient, under all circumstances, of the danger she encounters, as she would otherwise be certain to attribute the miscarriage to the instrumental examination." (pp. 198-99.) With regard to the careful use of the speculum during pregnancy, Dr. Bennet states it to be perfectly harmless, and even imperative, from the great probability of the production of abortion by the local affection.

Several interesting cases of inflammation of the neck of the uterus, during pregnancy, are detailed; of these we will select a few, as illustrative of this evidently important, but obscurely-known, affection.

Case. *Abortion prevented. Cure. Death from Metro-Peritonitis, after a favourable confinement.* "June 26, 1846. I was consulted at the Western Dispensary by Eliza T——, a pale, sickly-looking, young married woman, aged twenty-three. Her uterine and general antecedents were as follow:— Menstruated at sixteen; she continued to be so regularly every three weeks, until she married, four months ago, at the end of last February, just after menstruation. The menses were, usually, abundant, lasting four days, during the first of which she was generally in an agony of pain; and were followed by a white leucorrhœal discharge for some days. Her health, however, was very good, until about a twelmonth ago, when the whites increased in intensity, lasting during the entire menstrual interval, and she became weak and poorly. She also experienced severe pain in the back, and occasionally in her side. After her marriage, the first attempts at intercourse were followed by such severe uterine pains, that she was obliged to return home to her family, and was confined to her bed for above a week. The same symptoms afterwards occurred on every similar occasion; and were always accompanied, as at first, by the loss of more or less blood. The leucorrhœal discharge, which she recollects to have been then of a decidedly yellow character, was occasionally streaked with blood, even in the absence of the cause mentioned. There was never any flow of blood, however, which could be considered menstrual. Her general health gradually became more and more affected. When I saw her, she was pale and sallow, although rather stout, and felt very weak and ill. Tongue white, no appetite, bowels constipated, cephalalgia, cardialgia, rest bad, disturbed by dreams, frequent hysterical and fainting fits.

"On examination, I found the uterus enlarged, rising in the abdomen several inches above the pubis, as in the fourth or fifth month of pregnancy. The cervix, although voluminous, was not much indurated: the os was very open, and around and within it, the spongy sensation of an ulcerated surface was evident. On withdrawing the finger, it was found covered with pus tinged with blood. On using the speculum, the vagina appeared much more florid than is generally the case in the first months of pregnancy; it was lax, and contained a considerable quantity of pus. The cervix was voluminous, congested, of a florid-red hue, and presented an extensive fungous bleeding ulceration, existing on both lips of the cervix around the os, and extending into the cervical cavity. The ulceration was freely cauterized with the

nitrate of silver; alum injections were prescribed, perfect rest, an occasional saline aperient mixture, and very light diet.

"July 3rd. The application of the caustic was followed, for several days, by an abundant sanguineo-purulent secretion. On the disappearance of the blood, the discharge diminished in quantity. The patient feels easier; the uterine and lumbar pains are less intense; the ulceration has a less fungous and more healthy appearance. Treatment the same as before.

"10th. The ulceration is diminished to half its original size, and is healthy-looking; vagina less injected; pains in uterus and back very much better; leucorrhœa less; alum injections, cauterization with the nitrate of silver.

"17th. Ulceration healed, except in the cavity of the open cervix, and immediately around it. Leucorrhœal discharge, white, no longer purulent: the fainting fits are less frequent, and the general health is much improved. Same treatment.

"August 10th. On examining the cervix, I found the ulceration completely healed; the redness of the vagina and uterine neck was merely what it usually is at this period of pregnancy; the pains in the back and uterus had almost entirely disappeared, as also the leucorrhœal discharge. The general health had rallied in a very marked manner. She had not felt so well, she said, for months before her marriage.

"On the 1st of September, I again ascertained, instrumentally, the perfect integrity of the cervix. I continued, however, to see her at intervals. She remained quite free from her former uterine symptoms, gradually recovering health and strength, although rather weak. When I last saw her, in the eighth month of her pregnancy, she did not present an unfavourable symptom, and appeared in good spirits. She had latterly had a severe attack of acute bronchitis, from which she had quite recovered. I then lost sight of her, and only heard, some months afterwards, that she had entered Queen Charlotte's Lying-in Hospital, for her confinement, which took place favourably, but that she was attacked with metro-peritonitis, and died a few days afterwards." (pp. 208-10.)

"Case. *Ulcerative Inflammation of the Uterine Neck recognized in the sixth month of Pregnancy; Abortion: Four previous Abortions at the same period of Pregnancy: ultimate Recovery.* April the 12th, 1846, I was requested, at the Western Dispensary, to sign a midwifery letter, by Elizabeth G., a married woman, aged 28, six months gone in her fifth pregnancy. On inquiring as to the present and past state of her health,—a precaution which I generally take under similar circumstances,—I was told that she felt very unwell; that she had miscarried four times since her marriage, within the last four years; that the last three miscarriages had occurred at six or seven months, the period of pregnancy at which she had then arrived; and that she then experienced all the symptoms which had preceded the former miscarriages. This statement induced me to examine more minutely into her history, when I ascertained the following details. Tall, and rather thin, her health had been always delicate; she was born, and brought up, in town. Menstruated at seventeen, she was irregularly unwell, but without pain, for a year; the menses then disappeared for two years, during which time she was very poorly. At twenty they returned, and continued to appear regularly until she married, at the age of twenty-four. She became at once pregnant, and aborted at three months; cause unknown. Her second abortion, which occurred at six months, as likewise the subsequent ones, was preceded by a week's flooding, and she was confined to her bed for a fortnight. Since that epoch she has always had a yellow leucorrhœal discharge. As a girl, she often had 'the whites,' but the discharge was never yellow. Her abortions were never preceded by any circumstances to which she could ascribe them. Uterine pains, sometimes accompanied by flooding, came on a few hours or days previous, gradually increased, and terminated in the ex-

pulsion of the fœtus. During the present pregnancy, she had been much weaker, and more generally indisposed, than before; so much so, that she had not been able to work at all, which was not the case in her former pregnancies. She had had, throughout, severe pain in the lumbar region, and occasionally slight pains in the ovarian and hypogastric regions. The leucorrheal discharge has been, for some months, more abundant, and thicker. For the last two months she had experienced severe cephalalgia, accompanied by extreme heaviness. The appetite, however, was tolerably good; bowels costive; rest indifferent. She had been much troubled latterly by nausea and acidity. Pulse very full.

"On examining digitally, I found the abdomen developed, the uterus rising above the umbilicus, as in the beginning of the seventh month of pregnancy. The vagina was moistened by an abundant secretion. The cervix, in its usual position, more voluminous, and softer, than it is normally at this period of pregnancy, formed a quaggy mass; its surface, of a fungous softness, presented, more especially round the os, which was very open, numerous small indurations, about the size of large pin-heads. On withdrawing the finger it was covered with thick whitish pus. This pulpy, fungous state of the cervix, along with the partial indurations, the purulent discharge, the general symptoms, and the previous history of the case, all indicating the existence of extensive Ulcerative Inflammation of the Cervix, I proposed an instrumental examination. This, however, the patient would not consent to; I therefore ordered her to be bled to twelve ounces, and gave her a mild purgative.

"On the 21st I saw her again. The bleeding had slightly relieved the cephalalgia, and softened the pulse; but all the other symptoms were present, and had more attracted her attention since I had so minutely questioned her. On my again pointing out the necessity of instrumental examination, she no longer offered any objection. The vulva was congested and swollen; the vagina red, tender, and bathed with pus. On getting the cervix between the expanded blades of the conical bivalve speculum, I found that it presented a large fungous ulceration, covered with pus, and bleeding easily on being touched. The entire cervix was covered with luxuriant granulations, and presented a very different appearance to that which ulceration offers in the unimpregnated state. It was a fungous ulceration, softened and broken up as it were. From the regularity of the surface, however, from the absence of uneven, deep-seated induration, and the frankly purulent nature of the secretion, the ulceration was evidently of an inflammatory nature. I therefore touched the entire diseased surface with the nitrate of silver, and ordered astringent vaginal injections, with the sulphate of zinc, night and morning; mild aperients, and a tonic antacid mixture (infusion of gentian and carbonate of magnesia); light diet; complete rest.

"28th. The application of the nitrate of silver was followed by a slight oozing of blood for three days, but by no increase in the local pains. The latter are still severe in the lower segment of the developed abdomen, and in the loins. The yellow discharge is very abundant. She has the same bearing-down pains which preceded her other miscarriages. Same treatment.

"May 4th. I was summoned to Mrs. G.'s residence, and found that she had miscarried, during the previous night, of a seven months' child, which lived a few hours only. The bearing-down uterine pains had never left her from the time I last saw her. The previous afternoon they had been succeeded by regular labour-pains; and the confinement was completed in the course of eight hours, without anything unusual having occurred. I continued to see her for the first two weeks after delivery, during which period no unusual symptom appeared. She suffered, however, more than is generally the case from uterine pain; and the lochial discharge was more than usually abundant.

"June 3rd. She was examined with the speculum. The vagina was very

red and congested, and contained pus. The cervix was voluminous, not very hard, and presented an ulceration as large as a half-crown. The ulceration had a florid fungous surface, but did not offer the pulpy appearance which characterized it during pregnancy. She had still the old pains in the back, and in the hypogastric and ovarian regions, and an abundant yellow discharge; appetite bad; tongue white; feels very weak. The ulceration was touched with the nitrate of silver; injections, with a solution of alum, prescribed, and a saline mixture; light diet; rest, in the recumbent position.

"This, the usual treatment which I pursue in such cases, was persevered in during the month, the ulcerated surface being regularly cauterized once a week with nitrate of silver, or the acid nitrate of mercury. The menses returned at the beginning of the month, and lasted four days. Their manifestation was attended with considerable pain. Towards the latter part of June she had an attack of diarrhœa, then very prevalent, which proved obstinate.

"July 31st. The ulceration was healed; the cervix was still more voluminous than natural, but soft throughout. On opening the lips of the os, and examining its cavity in a good light, there was still seen, however, vivid redness of the internal mucous membrane lining it; which was touched, for the last time, with the nitrate of silver. Slight white leucorrhœa only. The vaginal mucous membrane was of a deep red colour, the body of the uterus rather voluminous, the breasts large, the areola prominent. She had not menstruated since the beginning of June, and was probably pregnant. She stated that she had never been so well since her marriage; she ate and slept well; had no headache, and felt strong. Six weeks later I again examined this patient instrumentally, and found the cervix and its cavity perfectly sound and healthy. There were no morbid phenomena, local or general. The pregnancy was then manifest. It continued to progress favourably; she had no aches nor pains, no vaginal discharge, and continued well throughout its course; very different to what she had been in any of her previous pregnancies. At the full period, she was safely confined of a healthy child, and has since done very well, remaining perfectly free from uterine symptoms." (pp. 212-217.)

For the excellent remarks on these and similar cases, made by Dr. Bennet, we must refer our readers to his work. We will only further observe, that he "firmly believes that most of the abortions which occur in the early months of pregnancy, from diseased ova and placenta, as well as those which are preceded by flooding and the death of the fœtus, are, in reality, the result of inflammatory disease of the neck of the uterus."

The next chapter treats of Inflammation, Ulceration, and Induration, of the Neck of the Uterus, during and after Abortion and Parturition. The subjects brought under notice are, its connexion with rigidity of the os during labour; with laceration and abrasion of the cervix; with flooding; and with the morbid symptoms that follow natural and difficult labour. We must, however, pass over this chapter, as well as the one on Inflammation and Ulceration of the Neck of the Uterus in advanced life, after the cessation of menstruation.

Inflammation and Ulceration of the Neck of the Uterus accompanying Uterine Polypi, is a frequent circumstance, the practical importance of which is well pointed out by Dr. Bennet. He says that the contact of the pedicle and of the narrow extremity of a fibrous polypus on the expanded lips of the os uteri, appears often to produce irritation, and, eventually, inflammation and ulceration. His reasons for this belief are, "the probability that the contact of a morbid growth with so susceptible a mucous membrane would produce inflammation; and that the mere existence of a tumour developed in the substance of the uterus, without any local cause of irritation, is frequently attended with ulceration of the cervix." The presence of ulceration of the cervix, in cases where the interior of the uterus is the seat of a fibrous

tumour, would, we think, very much interfere with the safe dilatation of the os uteri by sponge-tents for the purpose of being able to reach the tumour within, as recommended by Dr. Simpson in the *Edinburgh Monthly Journal of Medical Science*, for January 1850.[1] Dr. Bennet considers the inflammation and ulceration accompanying fibrous polypi to be the principal cause of the local pains, discharges, and constitutional symptoms which attend this affection ; and points out that such a state may keep up a congestion of the uterine system highly favourable to the development of the polypus. He has found great benefit to arise from the removal of the inflammatory affection of the cervix. Similar remarks are applied by Dr. Bennet to vascular polypi growing from the cervix. Of these he observes, that the patient is by no means cured when these are removed. "The presence of the polypus is merely an element in the case ; of importance, inasmuch as it is probably, in most instances, the cause of the irritation and ulceration of the mucous surface, but having in itself little evil reaction over the system. The distressing uterine and general symptoms which usually exist, and direct the attention of the medical attendant and of the patient to the uterus, are the result of the local inflammatory disease secondarily produced, and can only be removed by its removal." (p. 251.)

While we express our opinion of the importance of the views which Dr. Bennet has promulgated in the chapter before us, we would caution our readers against being so far led away by them, as to be content with palliative means, to the neglect of operative interference, when at all possible. The author himself we cannot accuse of this fault; he appears to judiciously limit the application of his views. "In the cases in which the tumour can be removed, the patient is only half cured if extensive inflammatory lesions are allowed to remain ; whilst in those in which the tumour is beyond the reach of instrumental means, the only chance we have of arresting its increase, and of restoring the patient to tolerable health, is our being able entirely to subdue all inflammatory action in the uterine system, thus bringing it to a state of quiescence." (p. 251.) The latter clause of this sentence will be somewhat modified, in the minds of many, by a perusal of Dr. Simpson's paper, to our abstract of which we refer them. Though the introduction of Dr. Simpson's sponge-tents into the os uteri, may be greatly interfered with by the presence of inflammation and ulceration, yet, by attending to Dr. Bennet's suggestions to moderate uterine inflammatory action, the operation proposed by Dr. Simpson may, we think, be sometimes advantageously performed : at any rate, it is worthy of attention, originating from so distinguished an authority. Dr. Bennet relates several illustrative cases ; one in which there was a fibrous polypus lying in the vagina, attached by its pedicle to the cervix uteri, and accompanied with extensive inflammatory ulceration of that region, and severe constitutional disturbance. The polypus was removed : and the ulceration healed by cauterization with nitrate of silver. The second case we transcribe.

"Case. *Fibrous Polypus of the Uterus, complicated by Inflammatory Ulceration of the Cervix.* On the 1st of May, 1845, Mrs. D——, aged fifty, came to town, from Somersetshire, by the advice of her medical attendant, to place herself under my care. During eight years she had suffered from uterine hæmorrhage, the intensity of which had gradually increased. She had had several children, the last at the age of forty-two. The two following years she miscarried at three months. After the last miscarriage she was seized with flooding, which returned at each menstrual period to such an extent as greatly to debilitate her ; sometimes even producing syncope. At the age of forty-five she ceased to lose blood at periodical periods, but since that time the hæmorrhage has been nearly continual ; seldom a day passing

[1] For the substance of Dr. Simpson's paper, see our Reports of the Edinburgh Medico-Chirurgical Society.

without more or less blood being lost. She has presented for some time all the symptoms of extreme anemia; the skin is sallow, the body emaciated; she suffers from palpitations, headach, want of sleep, and extreme debility; and a bellows-murmur is heard over the heart and along the arteries. The digestive functions do not, however, appear much disordered; the appetite is good, and she takes a great quantity of meat, wine, and porter, in order to keep up her strength. Complains of lumbar and hypogastric pains, and of a bearing-down sensation when walking. On examination per vaginam, a pedunculated tumour, as large as a goose's egg, was found situated in the vagina, issuing from the orifice of the os uteri. The examination occasioned a copious flow of blood. Ligature of the tumour was proposed, and gladly accepted, as she had been told that no operation was possible.

"On the 3rd, the bowels having been previously well relieved, I passed a whipcord ligature round the neck of the tumour with great ease. The hæmorrhage during the process was, however, considerable; the blood evidently exuded from the entire surface of the tumour, which was exposed by the mere separation of the labia, and which was of a florid red colour.

"11th. The tumour escaped from the vagina whilst she was making water; the canula and ligature remaining. On exercising traction, I brought down the uterus, but did not bring away the ligature and canula. I was, therefore, obliged to untie the whipcord, and pull it through one of the branches of the latter.

"17th. Examined the os uteri with the speculum, and found a large ulcerated surface on the anterior and posterior lips. The anterior was much more voluminous than the inferior, and was the principal seat of the ulceration. There was no trace whatever of the pedicle of the tumour. Cauterized the ulceration with the nitrate of silver; ordered injections with sulphate of zinc; sesquioxide of iron half a drachm a day, and a nourishing diet.

"On the 25th, she was absolutely obliged to leave town for family reasons, although the ulceration was not healed. I ordered her to use the sulphate of zinc injections carefully for some weeks. The sallowness of complexion was already much modified, and she felt stronger than she had done for some time.

"I subsequently learnt that her general health had very much improved. She still felt pain in the back, which might probably be owing to the ulceration not having quite healed. As, however, I have not again heard from her, it is probable that these symptoms gradually subsided, and that the cervix is restored to a state of integrity". (pp. 254-55.)

The third case is an interesting one of vascular polypus, in which the patient had been long and unsuccessfully treated for inflammation of the womb, without having been examined by the speculum. A vascular polypus was discovered by Dr. Bennet, conjoined with extensive inflammation and ulceration of the uterine neck. We can only quote the conclusion of the case:—

"By means of a pair of speculum forceps, with a small serrated extremity, I broke down, and brought away, by torsion, the small tumour, and the greater part of its pedicle. A few drops only of blood were lost. I subsequently cauterized the ulcerated surface, which appeared to extend to the entire depth and circumference of the cavity of the uterine neck.

"From this time the case resolved itself into one of simple inflammation and hypertrophy of the cervix, along with deep-seated ulceration; and was treated by the means which I usually employ—cauterization at variable intervals, emollient or astringent vaginal injections, hip-baths, leeches to the inflamed cervix, and rest in the recumbent position. Both the inflammation and ulceration, however, proved very rebellious to treatment. It was only by very slow degrees that the inflammatory hypertrophy of the lips of the cervix subsided. As this change occurred, the cervix, which, as we have

seen, was very low and retroverted, gradually rose in the pelvis, and partly assumed a more normal direction, the ulceration likewise cicatrizing.

"The ulceration external to the cavity of the os healed in the course of a few weeks, but the internal ulceration proved very obstinate, and the more so the deeper it was situated. It was only after an almost uninterrupted treatment of five months that the cavity of the cervix was completely healed. As it cicatrized it closed, until, from being long sufficiently open for an inch in depth to admit a large-sized drawing-pencil, it became so contracted as merely to admit the uterine sound. For the last six weeks of the treatment, the ulceration appeared limited to a small deep seated surface, probably that from which the polypus sprung, near the inner orifice of the cavity of the uterine neck. At the time the local treatment was brought to a close, the cervix was at least two inches higher in the pelvis than when I extirpated the polypus. It was also very much smaller, very much less retroverted, and presented no evidence of inflammatory induration, although still rather larger and harder than natural. The vagina was quite healthy. All the uterine organs were, however, still very sensible to the touch ; but in this respect they merely participated in the exaggerated state of nervous sensibility of the entire economy. Ever since the evulsion of the polypus, there had been no continued sanguineous discharge after the monthly periods, although the purulent discharge was often streaked with blood, especially after cauterization. The menses flowed rather abundantly for five or six days, and were then replaced by the purulent or sanguineo-purulent discharge from the ulcer.

"The slowness of the process of cicatrization in this case may be accounted for by two circumstances,—first, by the very lengthened existence which I feel warranted in ascribing to the local disease ; and secondly, to the very debilitated state of the general health, depraved by fifteen years of flooding and suffering. Not only was the patient so reduced by the continued loss of blood, morbid and artificial, that loud anæmic murmurs were heard in the heart, and in the large bloodvessels, but the digestive and nervous system had received a severe shock. The stomach could scarcely bear even the lightest food, and that only in very small quantities ; the action of the bowels was irregular, they were often relaxed and irritable ; and no stimulant, or dietetic or medicinal tonic, could be borne. She had been salivated more than once, and attributed the extreme susceptibility of the digestive system partly to this cause. Iron, quinine, iodine, etc., were all tried at various periods, but as often suspended from the disturbance they created in the economy. The intercostal, the sciatic, the crural, the dorsal and other nerves, were all at different times the seat of severe neuralgic pains, which generally proved rebellious to local therapeutic agents. They seemed to change their seat, or disappear, under the influence of atmospheric variations, or of mental or bodily conditions of a still less tangible nature, and were evidently the result of the general anæmic state of the economy." (pp. 260-3.)

We must pass over the chapters on Inflammation of the Vagina and Vulva and on the Connexion between Inflammation of the Uterus or its Neck, and Functional Derangements and Displacements of the Uterus, with merely recommending them, though there is, in the latter chapter, much repetition of what has been already said.

Syphilitic Ulcerations of the Neck of the Uterus have, according to Dr. Bennet, escaped the notice of most writers on uterine diseases. He divides them into two classes : 1. The true Hunterian chancre, which, he believes, to be very rare : and 2. Non-chancrous ulcerations, which frequently complicate blennorrhagia and the secondary forms of syphilis.

The complication of secondary syphilitic symptoms, with ulceration of the cervix uteri, was observed by Dr. Bennet in 1843, while in charge of a female skin-ward of seventy-five beds, in which there were always a great number of syphilitic skin diseases. He examined them with the speculum, and was led

to adopt this course "by finding, *on inquiry*, that several of those patients who presented no syphilitic disease of the external genital organs, except trifling leucorrhœa, were labouring under the symptoms which I have enumerated as indicating slight inflammation and ulceration of the cervix uteri. On examining these latter patients, I found the cervix ulcerated and slightly indurated, and it then occurred to me that the others might be similarly diseased, although they had not directed my attention to any symptoms of uterine disease. To my great surprise, I found that three out of four—perhaps more—also presented ulcerations of the cervix. Most of these patients were young women who had either never borne children, or had been confined several years previously, and were under treatment for syphilitic psoriasis, lichen, rupia, etc. When questioned narrowly, they *all* admitted that they experienced slight hypogastric pain; that congress had been rather painful for some time; some, that they had likewise a slight leucorrhœal discharge. They had not, however, paid any attention to these symptoms.

"What was the nature of these ulcerations? Were they syphilitic, modified chancres, or secondary ulcerations; or were they merely inflammatory sores? In their appearance, I myself could discover little or no difference from the ulcerations observed in non-syphilitic patients, and was therefore inclined to deny their general syphilitic nature. Some were large, some small; some had a well-defined margin, others not; some were covered with large unhealthy granulations; others with small, florid, healthy granulations; whilst some, again, presented a kind of pseudo-membranous film." (p. 324.)

Dr. Bennet differs from M. Gibert, who thinks that these are modified chancres. As to their being secondary, he does not think they are so in a large number of cases. Their nature he then considers to be inflammatory. He concludes this chapter by the following propositions:

"First. The real classical chancre, presenting its ordinary physical characters, is *excessively rare* on the cervix uteri.

"Secondly. Ulcerations presenting the characters of the inflammatory ulceration are, on the contrary, excessively common in patients labouring under blennorrhagia, or primary, secondary, and tertiary syphilis.

"Thirdly. Some few of these ulcerations may be primary or secondary, but the very great majority are merely inflammatory." (p. 329.)

Cancer of the Uterus. The diagnosis has not, according to Dr. Bennet, arrived at a very high degree of perfection. Those who have written on the disease, would appear to have described hypertrophied induration of the neck as the incipient stage of cancer; while Dr. Bennet thinks this stage remarkable for its quiescence, and that patients seldom apply for relief until a cancer has far advanced. He gives copious extracts from the works of Sir Charles Clarke, Dr. Ashwell, and Dr. Montgomery, showing the prevalence of the opinion, that cancer may be arrested in its early stage; and he subsequently quotes several of their cases, making remarks on them.

His critical examination of the physical data on which the views of most other writers are founded, we quote entire:—

"The principal anatomical changes stated to characterize Cancer in its incipient, non-ulcerated stage, by the three authors I have quoted, are as follow: A firm tumour, of a rounded form, springing from the surface of the cervix, or embedded in it, or general enlargement and hardness of the cervix; an open, gaping os, which admits the extremity of the finger; perfect freedom of the vagina from thickening or disease.—(Sir Charles Clark.) Hard tumour of the entire cervix; puckering and hardening of the edges of the os, and hard tumours deposited in any portion of the cervix; a dull white, or slightly grey, colour of the mucous membrane covering the cervix.—(Dr. Ashwell.) Margin of the os hard, slightly fissured, projecting into the vagina, and irregular; in the situation of the muciparous glands are felt several small, hard, and distinctly-defined projections, like grains of shot, painful on pressure; cervix slightly enlarged, and harder than natural; cir-

cumference of the os turgid, of a deep crimson colour, the projecting points being bluish ; no thickening or disease of vagina, or consolidation of the uterus to the pelvic contents.—(Dr. Montgomery.)

"All these are anatomical conditions which may be produced in the neck of the uterus, and are daily produced, by inflammation and puerperal laceration of its orifice.

"The enlargement of the cervix described by Sir Charles Clarke is evidently that produced by inflammatory hypertrophy; and the two chapters which he devotes to 'Carcinoma of the uterus, and its treatment', in the non-ulcerated stage, are clearly descriptive, in almost their entire extent, of inflammatory hypertrophy alone. The 'form' in which a firm tumour springs from the surface of the cervix, is probably hypertrophy limited to one lip ; whilst the form in which there is enlargement and general hardness of the cervix, is general hypertrophy. If any evidence, beyond the mere description of the state of the neck of the uterus, were wanted to indicate the inflammatory nature of these changes, it would be found in the open, gaping state of the os, admitting the end of the finger. This is the characteristic condition of the os uteri in inflammatory hypertrophy.

"Dr. Ashwell, falling into the same error, admits the malignant nature of simple 'hard tumour of the cervix', as he designates the condition described by Sir Charles Clarke. He considers also puckering and hardening of the edges of the os, with the presence of hard tumours in any region of the cervix, as characteristic of cancerous disease. Dr. Montgomery's description of incipient Cancer seems limited to the latter changes.

"Puckering of the edges of the os has always appeared to me merely the result of laceration of the os and cervix during labour, and of subsequent inflammation of the lobules into which the margin of the os and cervix is thus accidentally divided, as I have elsewhere explained (p. 225).

"The cervix is, in reality, frequently lacerated ; and if Dr. Ashwell has not observed this to be the case (see page 433 of his work), it must be that, on the one hand, he has not analyzed with sufficient care the results furnished by digital and instrumental examination ; and that, on the other, he has mistaken for incipient Cancer the cases in which the lacerations, not having healed, have led to a puckered, indurated state of the edges of the os. When laceration occurs in abortion or labour, if the parts involved do not return to a healthy state, but remain ulcerated and inflamed, lobes are formed around the os, separated from one another by fissures more or less deep. These lobes, although merely inflamed, may become of a stony hardness ; and when this occurs, the hardness is very erroneously supposed to characterize schirrus, and is cited as an evidence of the malignant nature of the disease. If the lobes thus formed around the os, and thus indurated, be considerably hypertrophied, they present exactly the sensation to the touch which Dr. Montgomery compares to the ends of the fingers brought closely together, and which he considers to characterize the second stage of Cancer.

"The isolated nodosities described by Dr. Montgomery may certainly be cancerous nodules; but they may also be merely muciparous glands inflamed and indurated. In fact, their being of a crimson hue would seem to show that such is really the case, inasmuch as cancerous growths in mucous membranes are rather characterized by a bleaching or whitening of the tissues which they attack.

"Thus, a critical analysis of the anatomical changes ascribed to incipient Cancer, shows that, on the one hand, these changes present nothing special, nothing that can be said to characterize, as malignant, the case in which they are found ; whilst, on the other, it shows that they are constantly met with as the result of inflammation." (pp. 350-354.)

The progress of the so-called incipient cancer, its quiescence for years, its yielding to treatment, afford Dr. Bennet additional confirmation of his views. He concludes that cancer is as untractable in the womb, as in other

organs, and much more prompt, according to Dr. Hughes Bennett, to enlarge, soften, and ulcerate.

The symptoms which really characterize incipient cancer, Dr. Bennet is unable to describe, as he has never seen a case of the kind: but he would "expect to find shot-like, pale, indolent indurations, all but insensible to pressure, strewn irregularly over the cervix; or an irregular hard tumour, similarly characterized, developed on its surface. This description of what I should expect to find is drawn from the state of the *non*-ulcerated parts of carcinoma uteri when examined in its more advanced or ulcerated stage." (p. 368.)

The chapter concludes with some remarks on ulcerated cancer of the cervix uteri, and on cancroid growths. Dr. Bennet's observations lead us to hope that the non-cancerous nature of certain diseased conditions of the uterus may be so far established by him, as to afford encouragement to the practitioner, and to relieve many patients from the groundless apprehension that they are labouring under malignant disease. Dr. Bennet's partiality for inflammation of the uterus, perhaps leads him sometimes a little too far, and may, if his views be carried out by others, tend occasionally to an error of diagnosis in the opposite direction. What he has written on the diagnosis of Cancer of the Uterus, should be compared with the opinions of other authors, and brought to the test of experience. In this way, either his opinions may be confirmed, or we may arrive at a more precise knowledge of the incipient stages of the affection. It is certainly very questionable, whether true incipient cancer be really so curable, as is asserted by many writers.

Treatment of Inflammation of the Neck of the Uterus. The local remedial measures principally consist of *vaginal injections, hip-baths, local depletion, and the use of caustics.* Ulceration or hypertrophy do not prevent them from being used.

Vaginal injections, properly used, are very valuable: and cold water alone is often very beneficial, not only in washing away the mucus which tends to stagnate, but as a powerful tonic and astringent. To produce an anodyne effect, a few drops of laudanum, or a drachm or two of tincture of hyoscyamus, may be added to the water; but Dr. Bennet remarks, that a more powerful sedative effect may be obtained by the injection of anodynes into the rectum, which is in accordance with our experience. As an astringent injection, he prefers alum, generally in the proportion of a drachm to a pint of water.

However useful injections are in cleansing the vagina from all morbid secretions, in diminishing uterine irritation, and in removing vaginal and vulvar irritation, they are generally powerless to subdue confirmed inflammation of the cavity of the cervix: mainly because the region affected is not reached. Dr. Bennet admits that some of the milder cases of ulceration, or non-ulcerative inflammation may be treated, when recent, by emollient and astringent injections, and attention to the general health; but in these cases, he says, the treatment cannot be depended on, and is more tedious than that by caustics.

In order that the full benefit should be derived from vaginal injections, Dr. Bennet recommends, that the patient should be placed in the horizontal position, with the pelvis slightly elevated. The instrument he recommends is a pump syringe, with which any quantity of fluid can be thrown in. To the inefficiency of small syringes, which have to be frequently introduced, in order to produce any effect, he attributes the discredit into which the use of vaginal injections has fallen. For the poorer classes, he recommends a large metal syringe with a long curved extremity. In all cases, we prefer a nicely-rounded glass syringe, about half an inch or more in diameter. To ascertain whether the injection reaches the entire extent of the vaginal cavity, Dr. Bennet recommends that the patient should use an aluminous injection,

an hour or two before being examined. "Unless the vaginal secretion be very profuse, all that part of the vaginal cavity, which the injection has reached, will be contracted, so as to admit with difficulty the introduction of the finger. If, however, it has only washed the lower part of the vagina, the finger, after passing the contracted region, finds the upper part moist and uncontracted." (p. 282-3.)

Leeches are a valuable means, both of moderating intense inflammatory action, and also of diminishing or removing the congestion which frequently attends menstruation, when the cervix or body of the uterus is the seat of inflammation. Dr. Bennet thinks them more certain than *scarification;* and the flow of blood may be arrested easily by an alum injection. We generally prefer depletion by the scarificator, by which, when properly used, a sufficient quantity of blood can always be obtained. Nurses rarely apply leeches properly, and the medical attendant has seldom leisure to superintend their application.

Dr. Bennet has been able to test the efficacy of local depletion, on a large scale, in the Western Dispensary; and has arrived at the conclusion, "that local depletion, although a great adjuvant, is by no means indispensable to the successful treatment of inflammation of the uterus and of its cervix. My dispensary patients, treated without leeches, get well, as do those whom I attend in private life, and with whom I employ depletion. Merely the latter get well sooner, and with less suffering; because, by the local abstraction of blood, the inflammation is sooner favourably modified, and the morbid congestions connected with menstruation, which so much aggravate the sufferings of patients, and so greatly retard their recovery, are prevented or removed.

"At the same time, I have become convinced, through the experience thus acquired, that if, by frequent leeching, or by a too copious abstraction of blood from the *occasional* application of leeches, the general strength of the patient is permanently reduced; she is placed even in a more unfavourable condition than the one in whom depletion is never employed." (pp. 386-7.)

To derive benefit from leeches, they should be employed once or twice at the commencement of the treatment, while the inflammation is acute: they are also indicated in the exacerbations before, during, and after menstruation. The uterus seems sometimes incapable of expelling the blood, which has accumulated in it at the catamenial period; and in this case leeches should be employed, so that the bleeding may form a part, as it were, of the monthly exudation.

While entertaining a high opinion of the benefits which may be produced by a judicious application of leeches, Dr. Bennet thinks their use may be often omitted; and this he is compelled to do in dispensary practice. He fears that local depletion will be rather abused than neglected, and gives some excellent cautionary remarks on this subject:—

"I am continually seeing cases in which, in my opinion, it is, or has been, carried very much too far, and in which the constitution of the patient has been greatly weakened by the repeated abstraction of blood. This is an error the more to be guarded against, as the frequent repetition of local depletion does not remove nutritive hypertrophy of the neck of the uterus, or cure ulceration. I have a case now under my care, in which the patient, a lady, aged thirty-nine, had leeches applied to the cervix twice a week *for five years*, without the ulceration or hypertrophy being removed,—at least, I found both these morbid conditions existing, to a very decided extent, when I examined her; and by the symptoms which had been present from the first, their origin could clearly be traced back many years, probably fifteen or twenty. She was reduced, by this treatment, to a very low state of anæmia, the blood being in a perfectly serous condition. I have repeatedly seen the same state of the general system induced by the repeated internal application of leeches,

blindly followed up, for eight or ten weeks, on theoretical grounds only, and irrespective of the effects produced, the local disease remaining unmodified.

"The application of leeches every week, or twice a week, for a lengthened period, appears to me sometimes to keep up local congestion, thus tending rather to increase than to diminish the nutritive hypertrophy of the cervix and uterus, to which chronic inflammation gives rise. Leeches, when applied to the neck of the uterus, not only remove the blood which it contains, but appear to establish a flow to that organ from the abdominal organs, as seems indicated by the patient generally feeling a dragging sensation all over the lower abdominal region, when the leeches begin to fill. This drawing of blood from the pelvic viscera, is in no degree prejudicial, when there is subacute inflammation, or even congestion of the uterine system; because the surrounding organs are also more or less congested, as we have seen, and the subtraction of blood from them, as well as from the uterus, relieves the entire abdominal circulation. But this is no longer the case, when all acute inflammation has been subdued, and chronic inflammatory hypertrophy and induration, with atonic ulceration, remain. These are conditions which must be remedied by other means of treatment,—repeated local bleeding, irrespective of menstrual congestion, merely keeping up a flow of blood to the uterus, and debilitating the system, not only without benefit, but with positive injury to the patient.

"The tendency to abuse the use of leeches, shown by some practitioners, who have adopted it as an ordinary means of treatment, is promoted by their generally entrusting the application of the leeches to midwives, as they are unable to judge of the effect produced. It is too much the custom with such practitioners to prescribe a 'course of leeching', as they would a 'course of medicine', giving directions for leeches to be applied once or twice a week, for one, two, or more months, without ascertaining whether the continuance of depletion is necessary or not." (pp. 389-390.)

The leeches should be applied by the practitioner himself, both with the view of forming an opinion as to the propriety of their repetition, and also to avoid the pain which is often produced, when they are applied by a midwife. The proper mode of application is thus described:

"Leeches may be applied to the cervix uteri by means of open tubes, or of tubes closed at their extremity so as to prevent the possibility of their escape. In the latter case, the closed end has several small holes, of sufficient size to allow the leeches fixing on the part with which the tube is placed in contact. In the former, the ordinary conical or cylindrical speculum is the best instrument that can be used. The application of leeches by means of the closed leech-tube is generally very tedious, and the leeches do not fill by any means so promptly as when an open tube is used; moreover, it does not always prevent their fixing in the cavity of the cervix, if the tube is in contact with the open os uteri. An open tube is certainly much preferable.

"When the cervix has been brought within the field of the instrument, and the os, if open, has been closed as above directed, the leeches should be put into the speculum and pushed close up to the cervix by a plug of sponge or cotton; they are thus imprisoned in the instrument between the cervix and the plug. All that are inclined to bite do so immediately, whilst those that are not, generally work their way out in the course of two or three minutes, between the vagina and the speculum. When leeches have thus come away, it is of very little use to re-introduce them, as they seldom take. The plug may be left in about fifteen minutes, and on being withdrawn it will generally be found that the leeches have filled, and that some have already come away. If the plug is allowed to remain longer, the leeches that have filled, generally work their way out by the side of the instrument. If they have got between the vagina and the speculum, and have not appeared externally, they fall into the speculum as it is slowly withdrawn. The entire operation need not last more than half-an-hour, from first to last." (pp. 392-393.)

Cauterization. This seems the only remedy on which Dr. Bennet would depend for the cure of inflammation of the cervix uteri, especially when accompanied with ulceration and hypertrophy. We would be inclined to think, however, that vaginal injections, rest, and attention to the general health, may prove of sufficient efficacy in a greater number of cases than he supposes. When the disease obstinately resists these measures, then cauterization is doubtless necessary. But there is one circumstance in particular pointed out by Dr. Bennet, which gives a high value to cauterization; we refer to the frequent existence of ulceration within the cavity of the cervix, and the impossibility of reaching this by injections. On this point we will quote the author's remarks. "The last part to heal in an ulceration of the neck of the uterus, is that which dips into the cervical cavity, inside the os. Thence the absolute necessity of separating the lips of the os with a bivalve speculum in a good light, and of thus carefully exploring the state of the cavity of the cervix before the disease is pronounced cured. Unless this precaution be adopted, in a very considerable proportion of the cases treated, the ulceration will be only partially cured, and what is erroneously considered a relapse will occur in the course of a few months. In reality, the relapse in such cases is nothing more than the disease creeping out of the cavity of the cervix, where it had been lurking from the first.

"A few years ago, in this country, ulcerative disease of the uterine neck was seldom detected, even by the most eminent uterine practitioners of the day. In a large proportion of the chronic cases of this description, for which I was then consulted in private practice, the very existence of the inflammatory ulceration, from which the patient had been suffering for many years, had not been even suspected, notwithstanding many valued opinions had been taken. Since the attention of the profession was directed, in the first edition of this work, to the frequency of this form of disease, and since the doctrines therein promulgated have been adopted and acted upon by many leading practitioners, I begin to see fewer instances of non-detection of ulcerative disease. I am still, however, continually witnessing cases in which ulceration has thus been imperfectly recognized and treated, the external or cervical ulceration only having been attended to, and the internal ulcerative element remaining unperceived. This error is committed in Paris as well as in this country. I never recollect seeing the cervical cavity examined, as I now examine it, when I held office in the Paris hospitals; and in what has been written by French pathologists on uterine diseases, there is no evidence of their being acquainted with the fact of ulceration so frequently penetrating and lurking into the cavity of the cervix. On the contrary, they mistake for indications of internal metritis the discharges which exist when the cervical cavity is inflamed or ulcerated." (398-9.)

The principal cauterizing agents—viz: the nitrate of silver, the mineral acids, and more especially the acid nitrate of mercury, potassa fusa, and potassa cum calce, and the actual cautery, are passed in review by Dr. Bennet.

Nitrate of silver has very limited powers as a cauterizing agent; but it is often an useful application in bringing on healthy action in ulcers. It moreover acts as an astringent on the surrounding tissues: and, "even when recourse is had to other caustics, the nitrate of silver, solid or in solution, is a most useful agent as a topical application in the interval of their application. The more powerful caustics should be used only at lengthened intervals, to rouse or modify energetically the vitality of the diseased surface; and it is by the nitrate of silver that the new action thus created should be moderated and guided. Its occasional employment serves as a dressing to the ulcerated surface, prevents its becoming irritable and unhealthy, keeps down the granulations, and thus powerfully assists in bringing about cicatrization." (pp. 403-404.)

The acid nitrate of mercury is rather more efficacious in its action than other mineral acids, and is much used by French practitioners. It is pre-

pared by adding to 100 parts of mercury, 200 parts of nitric acid ; dissolving the mercury by the aid of heat, and evaporating to 225 parts. This preparation is a dense solution of deuto-nitrate of mercury, in an excess of acid, and contains 71 per cent. of the deuto-nitrate. It is much more powerful than nitrate of silver. "It gives rise to a white eschar, which falls piecemeal about the sixth day, and sometimes not until later. I generally use it pure, but sometimes diluted with a little water. In the former case, the beneficial effect is only obtained by the seventh or eighth day, and it should not, consequently, be reapplied sooner. It is seldom however advisable to reapply the acid nitrate several weeks in succession. Generally speaking, ten days or a fortnight should be allowed to elapse between two cauterizations, the nitrate of silver, solid or in solution, being used in the interim. When the ulceration is large, and the granulations are redundant and unhealthy, this caustic exercises a very prompt and beneficial influence, often cleansing and modifying the sore in one application, even when the nitrate of silver has failed. In slight ulcerations, however, it is too powerful a remedy, and may aggravate the inflammation if injudiciously employed." (p. 405.)

The mineral acids require care in their application ; as the caustic, if allowed to run on the cervix and vagina, may produce very painful inflammation and ulceration. The acid should be applied by means of a dossil of cotton, at the end of a small and narrow platinum fork, or of a wire ; and any superfluity of acid should be pressed out from the cotton, before it is used.

The caustics above enumerated will often serve, with judicious general treatment, injections, and local depletion, to bring on a healthy state of the parts ; but in some instances, especially in ulceration of the cavity of the os uteri, the disease proves rebellious. The more powerful agents, to be employed in such cases, are potassa fusa and the actual cautery.

Potassa fusa was introduced into practice for the treatment of intractable ulcerations, and of chronic inflammatory hypertrophy of the cervix, by M. Gendrin of Paris. Its use is, however, confined to a very few practitioners ; and Dr. Simpson of Edinburgh appears to be the only one, in this country, who has given it a trial, and reported its efficacy. Dr. Simpson's testimony tends to show the utility of the remedy. In order to obviate the difficulties and dangers, which, unless great care be taken, result from the use of so powerful and fusible a caustic as the hydrate of potassa, Dr. Bennet has been endeavouring, for some years, to render its application more safe ; and he thinks he has succeeded.

Dr. Bennet gives a clear account of the method followed by M. Gendrin, and of the modification introduced by himself. M. Gendrin preferred potassa cum calce, made into a paste, with a few drops of alcohol, and applied it in the following manner :—

"A large conical speculum being first introduced, the uterine neck is made to enter its orifice; or should the cervix be too voluminous, the speculum is firmly pressed on the part which it is intended to cauterize, great care being taken not to enclose a fold of the vagina between the rim of the speculum and the cervix. About as much of the paste as would cover a fourpenny-piece, a line in thickness, is placed on a triangular piece of diachylon plaster, one end of which is inserted in the cleft extremity of a common bougie. The caustic paste is then carried, by means of the bougie, to the cervix, and applied to the centre of the part comprised within the speculum. With the long forceps, cotton is placed carefully all round the spot on which the caustic paste is applied, so as to completely protect the neighbouring parts ; and the bougie having been withdrawn, the speculum is two-thirds filled with cotton or lint, which is firmly pressed against the uterine neck. The speculum is then slowly extracted, the cotton which fills it being at the same time forcibly pushed back in the vagina with the forceps, as the speculum is withdrawn, so that the vagina remains thoroughly plugged. If this is carefully done, the caustic cannot fuse, and injure the parietes of the vagina. In about

fifteen or twenty minutes, the cotton or lint must be gradually withdrawn, by means of a bivalve speculum gradually introduced, and an eschar, of the size of a shilling, or rather larger, will be found where the caustic was applied. The vagina should then be washed out with a little tepid water, complete rest in bed enjoined, and emollient injections employed until the separation of the eschar, which takes place from the sixth to the eighth or tenth day.

"Enlightened by subsequent experience, I should now reject entirely this mode of applying the Vienna paste, even did I employ the preparation, which I have long ceased to do, having discovered a more safe and efficacious way of applying the potassa cum calce. Although I have for years seen M. Gendrin follow this mode of operation, and have myself often adopted it, without once witnessing the extension of the eschar to the vagina, still I think it demands too much caution and instrumental experience to be retained; especially as it is possible to apply potassa fusa, either combined with lime or alone, with equal efficacy and greater safety, in a more simple manner.

"The extraction of the speculum, after the application of the caustic paste, evidently depriving the vagina of the protection which the instrument affords it, I first determined to leave the speculum in situ until the process of cauterization was entirely accomplished. With this view, after getting the cervix well into the field of the large conical speculum, I introduced pledgets of cotton, steeped in acetic acid and water, between the speculum and the cervix in its entire circumference, so as to completely isolate the organ. I then, as before, applied the paste to the surface to be cauterized; and, when the desired effect was obtained, carefully wiped it away, washed the eschar with the diluted acetic acid, and, placing on the latter, as a dressing to prevent its coming in contact with the surrounding parts, a large pledget of cotton soaked in the vinegar-and-water, and tied to a piece of strong silk, withdrew the speculum.

"This plan succeeded so well, and appeared so thoroughly to isolate the cervix, and to prevent the possibility of the surrounding parts being compromised, that I determined to use the pure potassa fusa instead of the potassa cum calce, on account of the greater facility of applying it to any given part, and of graduating the intensity of its action. As an additional precaution, however, I first applied the nitrate of silver freely to the lower lip of the cervix, in order more effectually to guarantee it from the liquefied potassa, which invariably runs on the most depending part when the pure hydrate is used. The eschar formed by the nitrate of silver, superficial as it is, prevents the part which it covers from being acted upon. The lower lip of the neck of the uterus being protected by the nitrate of silver eschar, and the vagina by the pledgets of lint soaked in dilute acetic acid and pushed carefully in between the lower valve or circumference of the speculum and the cervix, there can be no risk of the potassa, although so very fusible, extending to parts which it is not intended to cauterize. I long used it exclusively, and in a great number of cases, in this manner, without its action once extending to the vagina. When thus applied, however, it is always advisable to leave for a few hours a pledget of lint soaked in dilute acetic acid in contact with the eschar, as uncombined particles of caustic lying on it might otherwise slightly cauterize the vagina. This has happened to me in one or two instances, in which I had omitted to take the precaution in question. The pledget or dressing may be withdrawn in the course of a few hours, and a pint or two of tepid water injected.

"In giving the above directions, I have supposed the patient to be lying on her back when examined, and the pelvis to be elevated so as to admit of easy and thorough inspection. In this case the cervix is, necessarily, the most depending part of the canal represented by the speculum and the vagina; and, consequently, any fluid which runs off from the cervix has a tendency to gravitate on to the vaginal cul-de-sac. Hence the necessity of taking the

above precautions. The pelvis might, it is true, be elevated to such an extent as to render the vaginal canal dependent, especially if the patient were lying on the side ; and this position would diminish the danger of the potassa running on the vaginal cul-de-sac ; but as it renders the inspection of the cervix uteri and all surgical manipulations difficult, I reject it without hesitation. When about to use so powerful an agent as potassa fusa, we cannot see too clearly and satisfactorily the state of the parts on which we have to operate. Otherwise, all is doubt and danger." (pp. 409-12.)

Dr. Bennet has subsequently found it more advantageous to use potassa cum calce, which, with the assistance of Mr. Squire of Oxford-street, he has had fused into cylinders like those of nitrate of silver. Their action is energetic, and as prompt and deep as potassa fusa ; and they require less precaution : "All that is necessary, is to see the cervix well isolated in the speculum, to wipe off the sanies that oozes from the surface cauterized, and then to apply a cotton pledget, moistened with vinegar and water, which is to remain as a dressing on the withdrawal of the speculum. These precautions are necessary, as, for two or three minutes after the application of the caustic, a straw-coloured fluid exudes, especially if it has been carried into the cervical cavity, which may slightly cauterize the parts with which it comes in contact." (p. 413.)

The effects produced by the use of potassa fusa, or potassa cum calce, are, "a profound modification of the vitality of the diseased tissues, and the substitution of a healthy ulceration for a morbid one, with a tendency to indefinitely perpetuate its existence." The ulceration, thus modified by the cautery, may heal without the employment of any further means ; but Dr. Bennet thinks it injudicious to depend on this so as to forego the subsequent dressing of the sore. He says : "I have, in many cases, tried to ensure the continued improvement of patients who could not remain long with me, by resorting to severe cauterization, and then allowing them to suspend local treatment for a few weeks, so soon as they had recovered from its immediate effects ; but have generally failed, the diseased condition evidently not improving, or only slightly improving, for want of subsequent treatment." (p. 416.)

Dr. Bennet generally applies a small cylinder to the cavity of the neck of the uterus, much less in size than the common nitrate of silver cylinders ; and he only leaves it a few seconds in contact with the diseased surface, as its object is not to create a slough, but profoundly to modify its vitality. The application may sometimes produce a greater narrowing of the os uteri than exists in the healthy state ; but this does not seem permanent.

The actual cautery was recommended by Celsus, in the treatment of ulcers of the prolapsed uterus ; and the same means of treatment has been advocated by several modern surgeons. M. Jobert de Lamballe appears to have been the first to adopt these suggestions, and to have employed the actual cautery for many years, with great success, in simple ulceration, as well as in severe inflammatory hypertrophy of the neck of the uterus. The action of the actual cautery appears identical with that of the potassa fusa, although M. Jobert thinks that the former possesses some peculiar advantages. Dr. Bennet has found both remedies free from risk or danger in his hands : and, in an experience of twelve years, he has only once seen serious inflammation occurring as a sequela ; and even here, the results can scarcely be fairly attributed to the means employed. This was a case, in which inflammation and abscess arose in the lateral ligaments, twelve days after the application of the caustic, and at the time of the appearance of the menses. But it is by no means certain that it was not merely a coincidence—perhaps an usual aggravation of the disease at the menstrual period, but located in the lateral ligaments instead of in the uterus. Dr. Bennet does not pretend to claim, for the operation of cauterization, absolute immunity from danger. "Cauterization of the cervix, and especially deep cauterization, is *an operation,* and, like all operations, surrounded with danger. It must not, there-

fore, be either injudiciously resorted to, or carelessly carried out. Although my own practice has hitherto been free, or all but free, from serious accidents, the same immunity cannot always be expected. Indeed, I learnt recently from M. Gendrin, that within the last few years he has had several cases of acute metritis, and of abscess in the lateral ligaments, the evident and immediate result of deep cauterization. But he also tells me that he had seen the same results follow the use of the nitrate of silver, and of injections; and I may mention that the two most severe instances of acute metritis that I have myself witnessed for some time, in the unimpregnated womb, occurred after the use of weak astringent vaginal injections.

"It is clear, from what precedes, that no surgical interference with the womb, however simple, is absolutely free from some slight risk. No such means of treatment, therefore, should be resorted to unless rendered necessary by the state of the patient; but, at the same time, we should not shrink from resorting to those remedial agencies which experience teaches us to be the most efficacious. We must bear in mind that, in order to restore to health a person suffering from severe disease, which can only be removed by surgical treatment, generally speaking, there is considerable risk and danger to be encountered; whereas, in the surgical treatment of uterine disease, the risk is so slight that it scarcely deserves to be taken into consideration." (pp. 425-6.)

The possibility of danger resulting from the use of the potent means so ably advocated by Dr. Bennet will, we think, tend to make many pause before applying these remedies. Milder measures should first have a fair trial, and if these fail, then the more severe means may be resorted to.

Hypertrophy and induration may sometimes be removed by the subdual of both deep-seated and superficial inflammation: but sometimes they prove obstinate, and then it is necessary to try other remedies. Dr. Bennet has found but little benefit from the use of iodine or mercurials, external or internal; and depends most on the use of potassa fusa for the purpose of making a deep eschar on the hypertrophied cervix. The object in view is thus explained: "I must, however, *most emphatically* guard practitioners against an error into which there would appear to be some danger of their falling, from misinterpretation of my views. I wish it to be most distinctly understood that I do *not propose to destroy* the hypertrophied cervix by cauterization, but merely to set up an artificial eliminatory inflammation, by means of an eschar or issue, of *limited extent*, established in the centre of the hypertrophied region. I do not calculate, in the remotest degree, on the destruction of tissue to which the caustic or cautery gives rise, for diminishing the size of the hypertrophied cervix; but solely and entirely on *the inflammation subsequently set up*. Any attempt to actually destroy the hypertrophy, by direct cauterization, appears to me both dangerous and unnecessary;—dangerous, because I should be afraid that the intensity of the reactional inflammation would be so great, as often to extend to the uterus or to the lateral ligaments, and because I consider it next to impossible always to limit the action of the caustic when applied with such profusion;—unnecessary, because a mere eschar, of the size of a shilling, will equally well answer the purpose of reducing the hypertrophy. It may perhaps be necessary to apply it several times; but of what consequence is prolonging for a few weeks the treatment of a disease which must have existed for years to require treating at all by such agents, compared with the danger of perforating the vagina and causing peritonitis, or of giving rise to intense metritis." (pp. 430-1.)

The extent to which we have carried our analysis of Dr. Bennet's work, prevents us from doing more than refer our readers to his remaining observations on the local and general treatment of the various forms of uterine inflammation.

Before concluding, however, we must quote a paragraph from his APPENDIX on the PHYSICAL EXAMINATION OF THE UTERUS AND ITS APPENDAGES. We allude to the FORM OF THE SPECULUM, which is a very important consideration. Dr. Bennet generally employs the bivalve speculum, as ingeniously modified by Mr. Coxeter.

"The bulging of the vagina between the open valves of the bivalve speculum renders it of no use in the cases in which this occurs. Mr. Coxeter has met the difficulty, by very ingeniously combining the conical and bivalve specula. He has made an instrument which, when closed, represents the No. 3 conical speculum, slightly flattened transversely. The cone, however, is composed of two valves, which can be separated to any extent by means of a hinge. We thus get the side protection of the conical, and the expansive power of the bivalve speculum. This is, indeed, a most valuable instrument, and has enabled me to discard, nearly entirely, the largest conical size. It is more especially applicable, in the same class of cases:—during pregnancy, when the vagina is more than usually relaxed, and when it is desirable effectually to protect the sides of the vagina, as in the application of the potassa cum calce or potassa fusa." (p. 501.)

Our readers may already have observed that we adopt, pretty nearly to their full extent, the pathological and therapeutical views of the author; and, therefore, any formal additional recognition of them in this place is hardly called for. The point on which we feel greatest difficulty in going cordially along with Dr. Bennet, is his limited appreciation of general medical treatment. He certainly recommends it as an adjuvant to local means; but he does not concede to it that amount of efficacy, which from our own experience, as well as from the testimony of the best authorities, it seems fairly to merit. We think, with Dr. Oldham, that in hypertrophy and induration of the cervix, much local treatment may be dispensed with, if the bichloride of mercury be skilfully administered internally. Dr. Bennet seems to consider, that to employ surgical, or, to use his expression, *local treatment*, as an *adjuvant* to *medical treatment*, when there is absolute uterine disease of a chronic nature existing, would be like putting the cart before the horse; but, that, on the other hand, it is reasonable to admit the value of medicine as an *aid to local treatment*. Our difference, therefore, though of importance in its bearing upon the management of particular cases, is not one of principle, but of degree.

We have already stated, at p. 1029 of the volume for 1849, that Dr. Bennet has furnished "an amount of solid information regarding uterine diseases not to be met with in any other treatise"; and we would now add, that to Dr. Bennet is fairly due the great improvement, we might say the revolution, which has taken place in the management of these affections, since his views first began to be diffused by means of his original contributions to the *Lancet*, and subsequently by their republication, in the first edition of the work now under review. While we declare our belief that Dr. Bennet rides his hobby a little too hard, we willingly admit, that enthusiasm and earnestness are almost essentially requisite (even beyond all common limits), when old prejudices have to be unsparingly swept away, from ruling over a great domain of medical practice. It is no small merit, to have been chiefly instrumental in rescuing a very numerous class of patients from the inefficacious, trifling, and empirical routine till recently in the ascendant: and to be niggardly in recognizing the merits of such an author, because he has pushed some of his ideas too far, would be ungenerous and unjustifiable.

SANITARY ECONOMICS; OR, OUR MEDICAL CHARITIES AS THEY ARE, AND AS THEY OUGHT TO BE. By ALEXANDER P. STEWART, M.D., Physician to the St. Pancras Royal General Dispensary. Pp. 30. London: 1849.

DR. STEWART has not converted us to his opinions, simply because we held the same years before we perused his pamphlet. He has, however, established our previous convictions, and greatly illuminated some parts of the subject. We wish the public and the profession were more alive to the momentous facts, that some of our most ostentatious Medical Charities are unblushingly, and on a large scale, made use of by the rich for their servants; and that the majority of the hospitals and dispensaries of England are actually operating as the forcing beds of pauperism, the very schools in which are taught to all comers the first lessons of improvidence. Chalmers long ago admirably embodied the truth which Dr. Stewart so well illustrates, and which Mr. H. L. Smith, of Southam, twenty years ago, successfully applied. It was thus that Chalmers wrote in 1814: "The remedy against the extension of pauperism does not lie in the liberalities of the rich—it lies in the hearts and habits of the poor. Plant in their bosoms a principle of independence—give a high tone of delicacy to their characters, and teach them to recoil from pauperism as a degradation. Could we reform the improvident habits of the people, and pour the healthful infusion of Scripture principles into their hearts, it would reduce the existing poverty of the land to a very humble fraction of its present extent. We make bold to say, that, in ordinary times, there is not one-tenth of the pauperism of England due to unavoidable misfortune."[1]

It is not our intention on the present occasion to enter upon the general subject of a reform in our Medical Charities, as we intend, from time to time, to introduce to the notice of our readers the reports of different dispensaries, hospitals, and clubs; and also, because in our next number we propose to give the substance of a recent lecture, by Mr. H. L. Smith, on Provident Dispensaries. In the meantime, we content ourselves by selecting a few passages from Dr. Stewart's important and admirably written pamphlet, in the hope that it may aid him in securing the co-operation of the profession in introducing a better order of things.

GRATUITOUS ADVICE AND MEDICINE, DRAW TO THE DISPENSARY MANY WHO ARE MERE CANDIDATES FOR PUBLIC OR PRIVATE CHARITY. "I have been led to this conclusion from having been often asked, in a way that plainly showed it was the main errand, for a certificate of ill health, either couched in general terms or addressed to some benevolent individual; at other times, for a few lines to the Board of Guardians; but oftener far, for a recommendation to the District Visiting Society. The mere fact of being under treatment at a dispensary may prompt many charitable persons to extend a helping hand to the patient,—and to this there could, in many instances, be no reasonable objection, if the applicant were a patient in the sense of being *a sufferer*. Where, again, the dispensary letters and charitable relief are distributed by the same hands, the application for the wished-for dole is a natural, as the granting of it is a frequent, result of the physician's prescription, which is looked upon as a certificate of genuine sickness. And if it is not so, asks some smart objector, must not the physician be held as *particeps criminis*,—the wilful abettor of fraudulent beggary? Nay, not so fast, sweet master. The physician, unpaid as he is for all his exertions, knows too well the consequence of turning adrift, with the assurance that they have nothing the matter with them, applicants for

[1] HANNA (Rev. William, LL.D.), Life and Writings of Thomas Chalmers, D.D., LL.D. Vol. i, p. 384. Edinburgh: 1849. We are not acquainted with any biography in the English language more instructive or more interesting.

advice, armed with that formidable instrument—a Governor's recommendation. He knows very well that such a course exposes him to the risk of a correspondence with the incensed Governor, of which he must keep duplicates, in case of his being summoned to answer for his audacity before the Committee. I frankly confess, that if I had discharged all whom, during my incumbency in the St. Pancras Royal General Dispensary, I have suspected of having no disease specified in the nosology, or of being themselves the authors of their ailments, I should have involved myself in an endless succession of broils. And who does not know, that the time and thought required for sifting and exposing most cases of feigned disease, would amply suffice for the investigation of half a dozen cases of serious illness? So much for this feature of dispensary practice."

Gratuitous Advice and Medicine make Paupers of many :—for if once a family accept one form of alms, they soon become greedy of eleemosynary aid in every form in which they can grasp it. "Hitherto, in England, benevolence seems rather to have aimed at paralyzing, than at stimulating, the self-supporting energies of the working classes ; but a healthy reaction is now taking place, and is assigning a remarkable and cheering prominence to all sorts of *provident institutions ;* and that is a very false philanthropy, which would deter us, by the ready and popular cry of hard-heartedness, from seeking to develop these energies to the uttermost. A procedure this, which is in the highest degree compatible with a liberal and generous treatment of the deserving poor. But what shall we say of the second class? Why, that *many* of them—I can depone to the fact—have long withstood the temptation held out to them by the dispensary,—have availed themselves of it only after a painful struggle with their own inclinations, and would *never* have done so had there been any *via media* between private attendance and the receipt of alms. Often have I been spontaneously told, 'Indeed, sir, we have always paid for attendance till now, and we didn't like to send to the dispensary ; but we've been forced to it, for we couldn't pay any longer.' But this is the first step of the '*facilis descensus ;*' they have no scruple in returning to the dispensary, though a recurrence of sickness should find them improved in circumstances. This, however, it must be confessed, is seldom the case ; for, once fairly reconciled to the idea of receiving public charity, the benevolent society or the parish is thenceforward too often looked upon as superseding the necessity of economy and forethought, and as the appropriate refuge in any season of temporary pressure. As regards this and the third class of cases, I am persuaded, from instances that have come under my own observation, that thoughtless benevolence does much harm by actually pressing dispensary letters on the acceptance of those who were paying for attendance. The result of one such victory may be most disastrous. The neighbours all around begin to say, 'Why, if so-and-so goes to the dispensary, why should not we, who are no better, or, it may be, much worse off?' And so the infection spreads, till one such case may have pauperized a whole neighbourhood. Here is a case in point : — Coming down stairs one day from visiting a lady, who occupied the second floor of a very nice lodging-house in a highly-respectable quarter, I was thus accosted by the landlady :—'Well, Sir, if Mrs. —— is a fit patient for the dispensary, I shall know where to go when I'm ill next.' The lodger was, I believe, better off than the landlady ; and what could I say?"

How Governors derive Pecuniary Assistance from Dispensaries. "I have always considered the system of allowing Governors to have their servants supplied with advice and medicines utterly indefensible. Yet such is far from being the opinion of all. Rumour, for instance, asserts very positively, that some years ago a Noble Marquis, who has repeatedly held a high place in the councils of the realm, offered a donation of £50 to a well-

known dispensary, on condition of his being allowed, during the term of his natural life, to send the servants of his princely establishment for advice and medicine whenever any of them should require it. The reader naturally wishes to know what reception the Committee is said to have given to this tempting bargain ; but let him first bestow a few moments' thought on the important question it opens up. I confess that early associations, certain primitive ideas instilled into my mind from very childhood, and the customs of those among whom I was reared, all combined to impress me with very old-fashioned views of the sacredness of the relation between master and servant. It was my delight to hear of servants growing up almost from childhood in the bosom of families, of which they reckoned themselves, and were reckoned, members, and in which they remained till their heads were 'silvered over with the frost of age.' And if the great destroyer suddenly broke up, or by slow decay extinguished, the households of which they were component parts, it was pleasant to see them taken into the employ of other members of the same family, and cared for when bowed down with the weight of years, by those around whom their life-long associations were entwined. Now I do not assert that either the feeling or the practice to which I allude is wholly extinct—for I know that in many quarters they both exist, and are in full operation. But no one, I apprehend, will deny that they are yearly becoming more and more rare, and that in very many quarters the relation between master and servant has become one of mutual convenience. *Each seeks to serve himself of the other, for his own, and not for the other's benefit.* The very idea of an established relation is lost sight of, where, on either side, a freak, a whim, an explosion of temper, or fancied self-interest, may terminate it at any moment. The servant is in a twofold sense a *tenant-at-will*—at his employer's will, and at his own ; and as his place is thus doubly insecure, he seeks (like all of that class of tenants) to obtain from it the largest possible return for the smallest possible outlay. The only relation that can be said to subsist between those heads of families, who think it beneath them to occupy their thoughts about what is going on below stairs, and their servants, is that of so much menial labour exacted, and grudgingly given, for a stipulated equivalent, which is relinquished so soon as a larger one can be had for still lighter service. In such a state of things, of course, *moral obligation* ceases to be thought of, and *legal obligation* becomes, on either side, the standard of right and wrong. Now, the verdict found upon the alleged offer of the Noble Marquis will vary greatly, according as the jury is composed of those who take the moral, or of those who take the legal view of the question. If of the former, they will denounce it as *mean* ; if of the latter, they will praise it as *generous.* What said the Committee of the dispensary ? They are said to have rejected the proposal, on the ground that the institution, of which they were the guardians, was not intended for the relief of noblemen's servants.

"I might adduce various considerations in vindication of this decision. I might show that the moral obligation lying on masters, to promote the physical, as well as the moral health of their immediate dependants, is one of which, however they may neglect it, they cannot shake themselves free ; and that, sanctioned alike by the principles, the precepts, and the recorded examples of Holy Writ, it is still largely recognized in all professedly Christian communities. Or I might show, that the servants in large establishments should either have such wages as will enable them to pay for advice themselves, or be provided with such advice by their employers, who, if they excuse themselves from adopting either alternative, by referring to the size of their establishments, ought rather to abate somewhat of their pomp and circumstance, than to set at nought the maxim, 'Owe no man anything.' Or, yet, again, I might point out how cheap is that generosity towards a sick servant, which would supply him with attendance and medicines at the nominal rate of two shillings a-month ; and how peculiar that

sympathy for the sick poor, which cannot find relief to its yearnings, without exacting the aforesaid equivalent!

"But I greatly prefer exhibiting by contrast the nature of the alleged proposal, on which I dwell thus at length, because it brings out in a clear and striking light several of the worst features of the present system of dispensary management. Many, we suspect, would be disposed to think the offer of 50*l.*, even with the condition attached to it, an extremely liberal one, and would, in return for a donation half as large, reckon themselves fairly entitled to summon to their servants' sick room, at any hour of the day or night, the unpaid physician or surgeon of the dispensary, which they are said, by a figure of speech, to "patronize". Has it, we ask, ever occurred to those, who, out of yearly incomes of thousands sterling, bestow one annual guinea on a dispensary, to estimate the contributions of the medical officers, whom they look upon as their servants' servants? To begin with the annual guinea, let them bear in mind that the medical officer is generally a Governor like themselves; that he has exerted himself, more or less successfully, to obtain additional subscribers among his friends; and, that, besides the carriage-hires entailed upon him by his dispensary duties, but for which he is allowed no equivalent), and the shillings and half-crowns extorted by pity for his starving patients from his already over-taxed pocket—he makes in time and toil a WEEKLY contribution of certainly not less than a couple of guineas to the public health. In other words, each medical officer contributes *annually* to the funds of his dispensary a sum at least twice as large as the proffered *donation*—which many will call munificent—of the Noble Marquis. But this estimate does not include those items of which money value is no adequate exponent,—the frequent exhaustion of the body, depression of spirits, and utter unfitness for intellectual exertion after the day's work is done; the weeks, and sometimes months, of broken health and dyspeptic languor; the continual risk of life in his attempts to combat the great enemy in his dreariest fastnesses and most malignant aspects; the sudden summons which, in these haunts of death, he may receive at any moment, from a career of promise scarce begun, to the bar of the Eternal Judge. Surely, if any man can be said to have made good his title to a standing supply of medicines for his household, it is the dispensary medical officer. Yet *he* would scorn to avail himself, for such a purpose, of the public charity to which he contributes so largely. If, then, his wealthy and titled neighbours, who have all their lives been dandled in the lap of luxury, or those on whose honest exertions a kind and liberal Providence has smiled so sweetly, that in present affluence they have almost forgotten former want and toil, do, from motives of economy, stoop to, and resolutely insist on that, in consenting to which he would feel himself to have lost caste, why should not they be reckoned the pariahs of the philanthropic commonwealth?" (pp. 15-17.)

"Many, I doubt not, would be startled, and blush crimson at seeing their deeds of charity translated into such plain and unseemly English as this. And I purposely 'use plainness of speech', that I may stir up thoughtful and earnest minds to inquire whether we are not unconsciously accustoming ourselves to confound domestic duty with public charity, and deluding ourselves with the idea that we are satisfying the claims of both, while our so-called alms-deeds only serve to conceal from ourselves the havoc that the canker *selfishness* is silently working on our kindlier and more Christ-like sympathies. I especially desire to concentrate attention on the practice of systematically holding out a *bribe* (for such it is, disguise it by what other name we may), to draw forth the subscriptions of the wealthy—a practice, the very existence of which proves, that love for the sick poor is not of itself strong enough to secure an adequate support to our medical charities. It is one of those shifts, now-a-days so common, for beguiling or enticing, or, may we not say, cheating people into the commission of charitable acts, from which, if presented in their naked unattractiveness, they would be apt instinctively to recoil. It

must take its place in the weary round of dinners, balls, and fancy-fairs, *mis*called charitable, and so well-fitted, if the task were not so hopeless, to bring down the high looks of our boastful but hollow-hearted philanthropy. If this charge be deemed offensive, there is a simple, and, if our love for the poor be so disinterested, a natural way of escaping from it. Let the privilege be put an end to for all future subscribers; and if any of the *life*-governors say with Shylock,—

> 'I'll have my bond; I will not hear thee speak;
> I'll have my bond; and therefore speak no more,'—

the most unfriendly wish I could allow myself to breathe for him would be, that he may exact the uttermost farthing. By such a measure some annual guineas might be lost, but it is more than likely, that the adoption of a bold and comprehensive plan of medical relief for the labouring classes would induce many others to double or treble their subscriptions, instead of withdrawing them."[1] (pp. 18-20.)

The eager canvassing for the unsalaried appointments to Dispensaries and Infirmaries, the pretext which this gives for newspaper advertisements from medical aspirants, the profusion of medical charities in the neighbourhoods where they are least wanted, are subjects which provoke inquiry; and they shall have it. But, for the reasons already explained, we in the mean time refrain from entering upon their consideration.

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1. Charter and Bye-Laws of the Royal Medical and Chirurgical Society of London. pp. 32. London: 1846.
2. Catalogue of the Library of the Royal Medical and Chirurgical Society of London. Supplement for 1844-49. pp. 47. London: 1849.

In our last number, we had occasion to complain of the badness of the machinery of the Royal Medical and Chirurgical Society, as exposed by the dispiriting aspect of the present session, the attenuated volume of Transactions last issued, and the inexplicable want of discrimination or justice displayed in the selection and rejection of papers. We are glad to learn, that our remarks have not passed unheeded; and that it is admitted on all hands, that some modifications of present usages are urgently demanded. Though we are not hostile to the project, at present so popular, of amalgamating the London Medical, the Westminster, and other Societies, and establishing the new institute in a commodious and elegant mansion at the West End, with a library, a reading, and a refreshment room, we strongly feel that the first care of the medical profession in London ought to be, to reanimate the Royal Medical and Chirurgical Society. It contains, though little visible at present, all the elements of greatness and prosperity; its Fellows are the élite of the profession; it has, besides, a noble library and a respectable treasury, which the United Societies could not, under the most favourable circumstances, cope with for many years to come. We would therefore advise a general rallying round the standard of reform in the Royal Medical and Chirurgical Society, and would strongly deprecate the threatened secession of members. No violent changes are required; it is only necessary to abolish a bye-law of doubtful legality, and conform to the charter.

Nearly the whole power of the Fellows of the Royal Medical and Chirurgical Society is vested in the Council: and this body, through the disastrous working of the Bye-law to which we have referred, has become independent, and irresponsible, devoid of sympathy with those by whom it is nominally,

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[1] "The above remarks are not applicable, without important modifications, to the in-door department of hospitals, which must often be the refuge of servants laid aside by tedious and contagious diseases, but are largely so to the out-door department, which is, in fact, a dispensary."

but not in reality, chosen. In the Charter granted to the Society by his late Majesty William IV, we find the following provision:—"Our further will and pleasure is, that the Fellows of *the said Society* shall and may, on the first day of March, one thousand, eight hundred and thirty-five, and also shall and may, on the first day of March in every succeeding year, or as near the same as conveniently may be, assemble together at the then last or other usual place of meeting of the said Society, and proceed, by method of ballot, to *nominate and appoint a President of the said Society, and such Officers and other Members of the Council, as may, with the President, form the number of twenty-one, of whom we have willed that the Council shall consist.*" It is very clear, from this passage, that the election of the Council ought to be made by an unfettered general assembly of the Fellows; and that the annual meeting in March should be something more than a farce—something better than a cold and compulsory recognition of what is called the "House List". We use the term "*compulsory*", advisedly, because it has been found experimentally, that positively obnoxious names on the house-list are of necessity chosen, simply from there being no organization among the disapproving majority. The mischievous Bye-law to which we refer is as follows: "*Balloting lists, recommended by the Council, and having blank spaces for such alterations as any Fellow may wish to make in them, shall be laid on the Society's table, for the use of the Fellows, and sent to each resident Fellow, with the circular summons.*" The needed reform, therefore, is simply to repeal this Bye-law, and to introduce a practice consistent with the charter, and in accordance with what is due to the feelings of every individual gentleman who has been duly admitted as a Fellow. Previous to the day of election, let the President call upon any of the assembled Fellows to nominate suitable individuals to fill the offices: and then let the names of all Fellows so nominated be inscribed on the balloting lists. Should the number of names proposed be exactly equal to the offices to be filled up, the ballot would be little more than a formal operation; but if, on the other hand, as would generally be the case, the candidates should exceed the number of vacancies, then the ballot would elicit the true feeling of the Society, as those least acceptable to the majority would be struck out. Were the office-bearers to be thus chosen by the whole body of the Society, an immense stimulus would be given to individual exertions; and we would never again see dormant Fellows promoted to the chief offices. It is not safe, it is not reasonable, that the Council,—the supreme executive,—who, by the constitution of the Society, have almost unlimited power, should not be the free choice of the Fellows.

(To be continued.)

THE DISEASES OF CHILDREN. By FLEETWOOD CHURCHILL, M.D., M.R.I.A. pp. 656. Dublin: 1850.

DR. F. CHURCHILL'S name is so favourably known to the profession, that we had high anticipations as to the excellence of the work now before us: but though it be undoubtedly possessed of much merit, we find that it falls short of what we had expected. The performance is most unequal: some subjects are amply and ably discussed, others are treated very superficially, and not a few, of great importance, are not even referred to. Dr. Churchill does not seem to be fully acquainted with the recent English literature of the Diseases of Children; though we are glad to observe that this remark does not apply to his knowledge of the LONDON JOURNAL OF MEDICINE, which, however, unfortunately, when his work was printed, only embraced the very limited period of less than one year.

The work consists of two parts: the First being devoted to the *Management of Infants and Children:* and the Second to the *Diseases of Infants and Children.*

The first part we have perused with much pleasure. It is sound, clear,

and practical. The second part consists of seven sections, viz.: 1. Diseases of the Nervous System. 2. Of the Respiratory System. 3. Of the Heart. 4. Of the Digestive System. 5. Of the Skin. 6. Eruptive Fevers; and, 7. Infantile Remittent Fever. The first four sections each contain a chapter on Intra-uterine Diseases, but they are very far from being complete; and in the fifth section no notice is taken of congenital affections of the skin. Intra-uterine diseases of the kidney—a most interesting and important subject—is not noticed; and, except under scarlet fever, there is no notice of renal disease in any part of the work. The all-important subject of encephalitis is discussed in ten pages; whereas pertussis occupies three times that space. The paralysis of dentition is not mentioned. The same may be said of syphilis, phthisis, tabes mesenterica, all the forms of scrofula, influenza, various fevers, the diseases of the urinary and genital organs, malignant diseases, atelectasis pulmonum, etc. It does seem extraordinary to neglect such subjects in a systematic Treatise on the Diseases of Children.

Notwithstanding, the deficiencies which we have pointed out (and which must be remedied in a subsequent edition), we can truly say, that this volume will form a most valuable addition to the library of the medical practitioner.

London and Provincial Medical Directory for 1850. pp. 576. London: 1850.

We regard the *Medical Directory*, as a work, of great value to the profession; and we therefore hail with satisfaction the strong desire evidently manifested by the proprietors to insure greater accuracy for the future. Though, upon the whole, the errors of omission and of commission are fewer in number than in the *Directory* for 1849, we have yet to complain of such errors as could not have occurred, had the proof-sheets been looked at by a member of the medical profession, ordinarily well informed as to the occurrences of the last twelve months. It reveals incompetency on the part of the editor, to describe Dr. Day, Chandos Professor of Medicine at St. Andrews, as residing at 27 Upper Seymour Street, Portman Square, and to insert Dr. Peacock as holding the office of Physician to the Royal Free Hospital,—he having resigned that post on his appointment as Assistant Physician to St. Thomas's Hospital.

The number of double entries is hardly excusable. We mention a few which we have observed in the course of a very cursory examination. Dr. Edward Ballard is entered in the *London Directory* as residing at 64, Gower Street, and in the *Provincial Directory*, at East Retford: the latter being correct. Mr. Joseph Henry Green, of Hadley, President of the Royal College of Surgeons, is to be found in both departments of the *Directory*. Mr. J. T. R. Burroughs, of Lee, Kent, is similarly honoured: as is also Mr. F. C. Dodsworth, of Turnham Green. Dr. Jephson Potter, of Manchester, is styled in one page "Potter, Jephson", and in another, "Jephson, Potter."

Some of the suburbs of London are also given in the Provincial list, most frequently with separate lists of practitioners. We refer to Tottenham, Turnham Green, Streatham, Stratford, and Lee. In Putney, Dr. Ridge and Mr. Whiteman have been selected for location in "High Street", in the general Street list, while the other gentlemen are entered under "Putney".

There are a few more miscellaneous errors, the occurrence of which should certainly have been avoided. Mr. Rymer Jones is styled "Examiner in Physiology at the University of London", though he resigned that office two or three years ago. Dr. Carpenter is deprived of his title as Professor of Medical Jurisprudence in University College. Mr. J. F. South is still described as "Professor of Surgery to the Royal College of Surgeons." Dr. Turnbull, of Liverpool, in the list of the provincial hospitals and dispensaries, is not stated to be one of the physicians to the Liverpool Infirmary: and Dr.

Freckleton is retained, in the same place, as physician to that Institution, although he has resigned. We were rather surprised to find retained in the Street list, Mr. Samuel Cooper and Dr. Clendinning,—gentlemen whose loss has been long mourned by the profession. Some gentlemen, we observe, have "*Phys.*" appended to their names ; though the designation is not so much employed as in last year's *Directory*. If it were uniformly used to denote those who belong to the London College of Physicians, but had no claim to the academical degree, it would be reasonable ; but no such rule is observed. Dr. Tyler Smith, of 7 Bolton Street, is entitled *Phys.* in lieu of M.D., and we might multiply illustrations of the same confusion.

We may, perhaps, appear hypercritical ; but when such errors as we have noticed strike us in a slight and cursory examination of a book, of whose utility and general excellence we have a high opinion, and whose success we heartily desire, we should be failing in our duty, if we did not point them out. There is one other subject to which we beg particularly to direct attention, and that is the absurd selection which is frequently made of an author's productions. The best are often passed over in silence, and the least important paraded at full length. In this way a positive injustice has been done to many. Why were gentlemen troubled with an inquiry as to what papers they had published, "to *ensure accuracy*", if their returns were to be treated as waste-paper ?

Under competent editorial supervision, we have little doubt that the *Directory* might be made immaculate as compared to its present state. Being from this time under the controul of Mr. Churchill, we confidently expect to find the volume for 1851 free from all such unpardonable blemishes as those we have now mentioned. The work is a very useful one ; and has our hearty good wishes.

Underwood's Medical Appointment Book, Midwifery Register, Diary, and Almanack: for 1850.

Every physician, surgeon, and general practitioner, ought to use Underwood's Appointment Book and Diary. It is very portable, and adapted for every department of practice. The form we recommend is that done up with pocket, pencil, and test papers. We find that this vade-mecum greatly assists us in arranging and performing the duties of the day ; and that it likewise enables us, by making a few brief jottings in the diary, to write up our case-book reports with much greater confidence and precision, should the hurry or pressure of practice prevent the progress of a case from being daily extended in detail.

Locke and Sydenham. pp. 36. Edinburgh : 1849.

This is a wholesome and racy pamphlet, giving us some admirable lessons from the olden time. It appeared originally in a brilliant cotemporary—the *North British Review*. Rumour assigns its authorship to an accomplished young physician of Edinburgh ; but to whomsoever the honour of its paternity may belong, we should be glad to see the essay reprinted, with the author's name on the title-page, and in such a form as to command a wide circulation, particularly among medical students and junior practitioners. They may imbibe from it more benefit than from all the disputatious leaders that were ever written on Medical Education and Medical Reform.

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

ANATOMY AND PHYSIOLOGY.

LONGET ON THE FUNCTIONS OF THE PNEUMOGASTRIC NERVES.

M. Longet has published, in the *Archives Générales de Médecine* for November 1849, a memoir entitled *Sur la véritable Nature des Nerfs Pneumogastriques, et les Usages de leurs Anastomoses.* His principal object appears to be, to prove that *the Pneumogastric Nerve, at its origin, is exclusively a nerve of sensation;* and to this he devotes the first part of his memoir.

The idea that the Par Vagum, at its origin, is purely sensitive, has been maintained by Scarpa, Arnold, Bischoff, Valentin, and Morgani. The contrary opinion—that it contains motor filaments—has been maintained by several physiologists of repute, viz. Van Kempen, Hein, Volkmann, Bernard, Hyrtl, and Stilling. To these we would add Bischoff, who, not long after the publication of his remarks on the accessory nerve (to which M. Longet alludes), stated that he observed movements of the velum pendulum palati, in which contractions of the levator palati muscles were very decided, on irritating either the roots of the vagus, or the nervus accessorius.[1] [Dr. John Reid, also, of whose researches on the Eighth Pair of Nerves M. Longet appears to have been ignorant, mentions that, in some of his experiments, "a distinct movement of the pharynx and arytenoid cartilages followed the pinching of the insulated par vagum, within the cranium, with the forceps."] M. Longet considers his view supported by the fact, that the roots of the Pneumogastric Nerve are implanted in the same tract as the posterior roots of the spinal nerves; by its being provided with a ganglion; and by his having failed to observe any movement in the muscles of the larynx or pharynx, after carefully isolating the roots of the par vagum, and applying electricity to them. He attaches much importance to these negative experiments; and hence concludes that the nerve is exclusively sensitive, from its origin to the ganglion which is formed on it in the foramen lacerum. The filaments proceeding from this part of the nerve, he says, impart its peculiar sensibility to each organ to which they are distributed, and give rise to various forms of reaction, dependent on the organ and on the nature of the stimulus applied.

M. Longet states that, having excised the free part of the epiglottis in dogs, he opened the trachea immediately below the larynx, and introduced some small morsels of food into the glosso-epiglottic folds, where only the lingual filaments of the superior laryngeal are found: the action of deglutition was always easily excited. He considers, however, that the glosso-pharyngeal nerves, the pharyngeal branches of the pneumogastric, and some filaments of the trifacial nerve, are also excitor nerves of deglutition. The Pneumogastric Nerve is also the excitor nerve of the *besoin de respirer;* of the action of the stomach in chymification, and in vomiting; and, by its filaments, distributed to the inner surface of the heart, of the continual reflex movements of that organ.

But a grave error would be committed, if we supposed that the reflex movements of deglutition, chymification, respiration, and circulation, were all suspended on section of the par vagum. 1. Besides the lingual, pharyngeal, and œsophageal branches of the Pneumogastrics, the glosso-pharyngeal, and some divisions of the trifacial nerves, also act as excitor nerves of deglutition. 2. The presence of other nerves, besides the Pneumogastric, as

[1] Bericht über die Fortschritte der Physiologie im Jahre 1842; in *Müller's Archiv.* Jahrgang 1843, s. 155-6.

excitors of respiration, is shown by the effect produced in syncope, by dashing cold water on the face, or applying strong and penetrating odours to the nostrils. 3. The movements of the heart, though altered in rhythm and energy by section of the Pneumogastrics, are not thereby destroyed. 4. The movements of the stomach are not entirely suspended after section of the Pneumogastric Nerves in the neck.

Trunk of the Pneumogastric, considered as a Moto-sensitive Nerve. It is difficult to imagine how so small a number of fibres as the par vagum has at its origin, can impart sensation to so large an extent of mucous surface as they seem to do. The motor power also which it imparts, is not less astonishing at first; for if the whole of the spinal accessory nerve were added (which is contrary to what is known), this would still be insufficient, so innumerable are the ramifications of the mixed trunk of the par vagum.

Of the sources from which it derives its motor power—voluntary over some organs, involuntary over most, some are *direct*, and proceed,—1. From the internal branch of the spinal accessory: 2. From the facial nerve: 3. From the vertical portion of the hypoglossal: 4. From the anterior branches of the first and second cervical nerves. The others, which proceed from the anterior branches of the cervical and the first five or six dorsal nerves, are called *indirect*, because they pass through the ganglia of the sympathetic before arriving at their destination. The *direct* filaments all contribute to form the trunk of the nerve; while the *indirect* only communicate with its branches. No physiologist seems to have given to these anastomoses all the importance they deserve. To explain this multiplicity of sources, from which the Pneumogastric nerve derives its motor power, we must bear in mind the high physiological mission which is confided to the mixed trunk of the nerve. It presides, in fact, over the chief organs, whose action is indispensable to life. In order, then, that its functional integrity may be better preserved, and that any sudden interruption of its influence may be less easy, it derives its motor power from a large extent of the spinal chord. If it derived its power, like other nerves, from a limited portion of the central mass, a lesion at this point would instantly suspend its functions.

M. Longet next enters on the consideration of the question,—Is it possible to determine from what particular source the motor fibres, distributed to each organ, are derived? This can, he thinks, be answered in the affirmative.

1. The influence which the Pneumogastric nerve exerts over the movements of the lungs, heart, œsophagus, and stomach, is due to the filaments which it receives from the anterior branches of the cervical and upper dorsal nerves, *which pass through the sympathetic ganglia.* Irritation of the par vagum at its origin, or of the spinal accessory, hypoglossal, or facial, which are connected with it, does not produce any movement in these organs. Those parts which are supplied through the medium of the sympathetic, have this peculiarity, that the contractions produced by irritation of the nerves are not immediate, and continue, even increasing in intensity, after the stimulant has been removed. It would be an error to conclude that, because the phenomena of respiration, circulation and digestion, continue after the spinal accessory nerve has been divided, the pneumogastric is a mixed nerve at its origin: for the internal branch of the spinal accessory is only one of the motor nerves connected with the par vagum, and, moreover, presides over the functions of other organs.

2. The *direct* motor filaments, supplied to the Pneumogastric, are derived from the spinal accessory, the facial, the hypoglossal, and the anterior branches of the first and second cervical nerves.

The internal branch of the spinal accessory, which arises from the bulb, passes into the foramen lacerum between the external branch and the Pneumogastric. It gives some filaments to the latter nerve and then divides; one part forms a large portion of the pharyngeal nerve, and the other is united

with the Pneumogastric, just above the origin of the superior laryngeal. Its connection with the nerve cannot be demonstrated anatomically; but the experiments of Bischoff and Longet tend to show that the voice is destroyed on division of the internal branch of the spinal accessory.

Has the internal branch of the spinal accessory any influence over the respiratory movements of the glottis? It indeed transmits to the laryngeal muscles the motor power, on which depend the tension and approximation of the vocal chords; and it must be admitted, that the whole laryngeal muscular apparatus is called into action in the production of sounds. But in normal respiration, we only see a permanent separation of the glottis or of the nostrils; when respiration is impeded, these orifices at first become dilated, but soon return to their original dimensions, without having any necessity for the action of constrictor muscles. For the nasal orifice, this intervention is indispensable, as in the act of smelling; for the orifice of the glottis, it only acts in producing sonorous expiration, as in coughing and sneezing—that is to say, when the larynx acts both as an organ of voice and of respiration. The narrowing of the glottis, which occurs in certain determinate acts, is independent of the constrictor muscles of the larynx. It hence follows, that all the muscles of the larynx, with the exception of the arico-arytenoidei postici, are engaged in the production of the voice; and that, if section of the spinal accessory nerves produce aphonia, it is because they supply these muscles.

The crico-arytenoidei postici, which dilate the glottis in respiration, are under the influence of a greater number of nerves. Before giving off the recurrent nerves, which supply these muscles, the Pneumogastrics have extended to such a distance as to be able to receive motor fibres from the spinal nerves. These accessory fibres of the Pneumogastric supply also the constrictor muscles of the pharynx, which are in no way affected by irritation or injury of the spinal accessory nerve within the skull. In an animal, however, deprived of its spinal accessory nerves, there is some disorder of deglutition; and M. Bernard has observed some difficulty, which he refers to the non-closure of the larynx. When one wishes to compel the animal to eat quickly, when it is frightened during its meal, or when it is pinched, there is a kind of hoarse cough produced by the introduction of morsels of the food into the air passages. But when it is let alone, deglutition goes on without accident, but slowly; it sometimes recovers, however, its normal rapidity in a few days. The introduction of the food into the air passages is explained by the slowness of its progress through the pharynx. As to the latter phenomenon, it depends on a diminution of the power of the pharyngeal muscles; and its restoration tends to show, that these muscles derive their motor power from other nerves than the spinal accessory. The non-closure of the larynx cannot be adduced as a reason for the entrance of food into the trachea; for the closure of the glottis is effected by the action of the lower constrictor muscles of the pharynx during deglutition. From experiments performed by M. Longet, it appears that deglutition proceeds normally, even if the trachea be opened, and the glottis prevented from being closed. M. Louis, also, has observed deglutition performed with perfect regularity in phthisical patients, whose glottides had been destroyed by ulceration.

The principal causes which prevent the introduction of food into the air-passages are, the ascent of the larynx forward, with the movement of the tongue backward, and the *momentary* arrest of respiration which precedes these movements. M. Longet states that the arrest of the respiration cannot be attributed to the closure of the air passages at the level of the larynx; for the same phenomenon has taken place in dogs, whose trachea has been cut across; and in rabbits, whose spinal accessory nerves have been divided, and in whom the aperture of the glottis has been kept open. In deglutition, then, the pharynx ceases its respiratory function, to appropriate itself exclusively to deglutition. The acts of respiration and deglutition thus alternate

and never come into opposition. M. Longet concludes, that the temporary arrest of respiration is not dependent on the internal branches of the spinal accessory nerves ; and that the slight impediment to deglutition which follows section of these nerves, is not to be attributed to the persistence of respiration. That the pharynx should continue to act, after division of the spinal accessory nerves, is not surprising, when we reflect on the number of nerves which it receives from other sources. The filaments from the facial, which anastomose with the glosso-pharyngeal, are distributed to the stylo-pharyngei and palato-pharyngei muscles, as well as to the superior and middle constrictors ; the latter also receive nerves from the three or four upper cervical, which have passed through the superior cervical ganglia of the sympathetic ; and the superior constrictor also divides some nerves from the non-ganglionic portion of the trifacial. The inferior constrictor is supplied indirectly both by the upper and lower cervical nerves ; the filaments from the latter pass through the inferior cervical ganglia, and enter largely into the formation of those portions of the recurrent nerve which end in the inferior constrictor.

The motor power of the pharynx is thus dependent on the inferior maxillary, the facial, spinal accessory, and hypoglossal nerves, and on direct or indirect motor fibres from the cervical nerves ; while its property of sensation is presided over by the ganglionic portions of the par vagum, glosso-pharyngeal, trifacial, and sensory fibres from the anterior branches of the cervical nerves. The importance and diversity of the uses of this organ afford a just explanation of the numerous sources from which it derives its nerves.

The pharynx, by varying in dimensions, produces differences in the *timbre* of the voice ; but this function is of course useless, when the movements of the larynx in phonation have been arrested by section of the internal branches of the spinal accessory nerves.

M. Longet has always seen contractions produced in the upper part of the œsophagus by applying electricity to the internal branch of the spinal accessory. The muscular fibres, at this part, are mostly striated. The influence of the spinal accessory nerve seems to be exerted on the œsophagus during phonation ; for M. Longet has several times seen very obvious contractions of the upper part of the tube, at the same time that the animal was uttering violent cries.

It will perhaps be interesting to inquire, how far the ganglionic portion of the pneumogastric, and the numerous motor-filaments which join it, can represent the two elements of a rachidian nerve.

The mixed trunk of the pneumogastric consists, as before seen, of sensory and direct (voluntary or semi-voluntary), and indirect or reflex motor fibres. But if all these motor nerves were so grouped as to arise from a limited part of the cerebro-spinal axis, we would naturally be led to consider the pneumogastric as composed of elements analogous to the motor and sensory roots of spinal nerves. But the motor fibres of the pneumogastric arise from a large extent of the cerebro-spinal axis ; hence the impossibility of their uniting with the sensory portion of the nerve at the level of the jugular ganglion, as the motor and sensory portions of the spinal nerves unite at the level of the intervertebral ganglion. There is also another essential difference, in the presence of the indirect motor fibres, which do not exist in a mixed spinal nerve.

It would be easy to shew, that the muscular division of the inferior maxillary nerve is not the only motor root of the trifacial ; but that the oculo-motor, the facial, and the hypoglossal, form anastomoses with it, below the Gasserian ganglion, and thus represent complementary motor roots. We could certainly imagine, in place of all these nerves, a single large motor root: but then the interruption of the motor function, by injury, would be

much more easy. However this may be, we should be greatly mistaken in imagining that a nerve, reputed motor in relation to another which is sensory, must necessarily accompany all the divisions of the latter. No one denies, that the masticatory nerve is the motor portion of the trifacial, nor that the anterior root of the second cervical nerve is motor: yet the posterior root, which gives sensation to the skin of the back of the head, and the trifacial, which performs the same function anteriorly, are far from being accompanied, in their whole extent, by their corresponding motor filaments. An incomplete state of fusion between the motor and sensory fibres of the different nerves, would not authorize us to deny all analogy between them and the spinal nerves: in fact, we admit this analogy between the masticatory and the sensory portion of the inferior dental nerve, although their filaments are very easily separable, and accompany each other for only a very short distance.

The internal or anastomotic branch of the spinal accessory only represents an incomplete motor root. It is, at first, pretty distant from the pneumogastric, only giving some filaments to it; but the two nerves are soon closely united, so that, in the laryngeal nerves, it is absolutely impossible to separate the filaments of the pneumogastric from those of the spinal accessory. The apparent origin of the internal branch of the spinal accessory in the vicinity of the posterior roots, cannot be alleged as a reason for its not being motor; for the whole extent of the antero-lateral portions of the cord is devoted to motion. The masticatory and sixth nerves do not apparently arise from the prolongations of the anterior columns of the cord; but they are not the less nerves of motion.

M. Longet thinks he has shewn, that it is absurd to suppose, because the movements of the lungs, heart, liver, and stomach, continue after destruction of the spinal accessory nerve (one only of the motor sources) that the par-vagum, *at its origin*, has any proper motor power. The same law which regulates the spinal nerves must be applied to the cerebral: and consequently, there can be no nerves *mixed from their origin*.

The following is M. Longet's Summary:—

1. From its origin, as far as the superior jugular ganglion, the Pneumogastric is exclusively a nerve of sensation.

2. The stimulation of its proper fibres, at their extremities, has especially the effect of inducing the reflex movements of deglutition, chymification, circulation, and respiration. At the same time, it would be a serious error to suppose that, if the excitor influence of these fibres were cut off, the reflex motor actions would necessarily be abolished.

3. Below the superior jugular ganglion, the trunk of the Pneumogastric represents a mixed nerve, exercising a motor influence, voluntary on some organs, involuntary on others. The voluntary power it owes to its *direct* motor fibres; the involuntary, to the *indirect* before enumerated.

4. The sources of innervation required to maintain the function of an organ, are multiplied in proportion to its physiological importance. Thus the organic movements of the lungs, heart, and stomach, are influenced by motor fibres coming from numerous points of the nervous system. It is the same with the movements of deglutition, and with the respiratory dilatation of the glottis.

5. The anastomotic branch of the spinal accessory, which, to the exclusion of every other nerve, presides over the vocal movements of the larynx, only represents a *partial motor root* of the Pneumogastric.

6. It is neither correct nor rational to conclude that, because, in the absence of this anastomotic branch, the phenomena of respiration, circulation, and digestion, continue in animals, the Pneumogastric Nerve must be mixed at its origin. The internal branch of the spinal accessory is only one of the sources through which the trunk of the Pneumogastric receives motor filaments from the cerebro-spinal centre.

John Reid's Researches. Any contribution to physiology by M. Longet, is deserving of careful attention: and it is from our high opinion of his scientific merits, that we have devoted so much of our space to his memoir on the Functions of the Pneumogastric Nerves. But we regret to have to notice a serious fault, which is common to not a few of his countrymen, and which he commits in no moderate degree. We allude to disregard or ignorance of what has been done by British physiologists. In a careful perusal of his memoir, we have not once met with any allusion to the elaborate and valuable Essays of Dr. John Reid, on the Eighth Pair of Nerves: and we have been more struck with this omission, both because M. Longet has noticed the opinions of German physiologists, and because there are several points in his memoir, whereon the opinions of Dr. Reid might have been adduced, as either confirmatory or opposing. We are utterly at a loss to imagine a valid excuse for M. Longet. We have some idea, that he cannot be ignorant of at least the existence of the first memoir of Dr. Reid, published in 1838. Even supposing him to be ignorant of the English language, he might surely have become acquainted with what Dr. Reid had done, through the medium of some friend who understood English; and he must know, that the reputation of Dr. Reid entitles his writings to a careful and respectful examination.

We regret having to make these remarks; but we have felt it our imperative duty to offer them, as an act of simple justice to British physiologists, and in particular to our lamented countryman, whose sense of honour was so nice, that he never published the results of his own researches, without giving full credit to every fellow-labourer in the same field.

PRACTICE OF MEDICINE AND PATHOLOGY.

COINCIDENCE OF ALBUMINURIA AND AMAUROSIS.

Dr. Landouzy has contributed an article on this subject to the *Gazette Médicale* of Oct. 20, 1849. His speculations are misty; but his paper is interesting, as establishing the fact, that impaired vision is an almost constant symptom of that form of renal toxæmia, which is indicated by an albuminous condition of the urine. We have often seen amaurosis and albuminuria coincident: but we cannot speak to this being so very frequent as Dr. Landouzy states, though we can, from what we have seen, give full credit to the accuracy of his observations. The conclusions at which he has arrived are thus stated:—

1. Enfeebled vision is a symptom almost constantly present in albuminous nephritis.
2. It is the earliest symptom of albuminous nephritis.
3. It disappears and returns simultaneously with the albuminous condition of the urine.
4. Albuminous nephritis ought to be considered as dependent upon an alteration in the ganglionic system of nerves.

TREATMENT OF CROUP BY CALOMEL AND ALUM.

In a letter addressed to the Medical Society of Inde-et-Loire, M. Miguel, of Torres, has given some important details of the result of the method of treatment which he employs in diphtheritis.

He relates that, about twelve years ago, a little girl, seven years old, having been simultaneously seized with angina and croup, he proposed to perform the operation of tracheotomy, which was objected to by the parents. Being thus deprived of the last resource of art, he alternately administered to the child, every hour, two grains of Calomel and three grains of Alum. This treatment was continued a week, and produced no purgation nor saliva-

tion. Since this case, M. Miguel has treated twenty-six cases of croup, only three or four of which were doubtful; and only five cases have been fatal. He attributes the efficacy of his method to the mercury; but as it is liable to produce salivation and other disastrous consequences, these must be prevented; and M. Miguel thinks he has attained this object by combining alum with calomel. He thinks that when the Calomel and Alum are alternated, the latter serves to circumscribe the mercurial action, which should also be well watched, so that the administration of Calomel may be suspended on the least appearance of mercurial intoxication.

Remarks. The treatment of M. Miguel is founded on the property which is attributed to mercury, of diminishing the plasticity of the blood, and opposing the formation of false membranes. The important point is, that this treatment has proved successful in a certain number of cases. It should be known, also, that such treatment will not supersede the necessity of emetics and of energetic cauterization, when the disease has commenced in the pharynx. In such cases, mercury alone is useless: it may be prescribed, but the local treatment is that which must be chiefly depended on, to arrest the progress of the disease. Of this we saw a remarkable instance, a short time ago, in the practice of M. Trousseau.

In this case, the diphtheritis had commenced in the tonsils, and had extended towards the larynx. On the first day of its appearance, an emetic of sulphate of copper was administered, and the back of the throat was well cauterized with fuming hydrochloric acid. This cauterization was repeated once on the next day, twice on the day following, and once on the subsequent day. At the same time, the patient took, in small quantities every quarter or half hour, a mixture of ten grammes of alum with the same quantity of honey. This is preferable to alum in powder, because the medicine comes into permanent contact with the throat and the arytæno-epiglottic cartilages.

In prescribing Alum, M. Trousseau used it as an auxiliary to cauterization, not as a corrective to mercury, which he did not give during the whole progress of the case. From the third day, there was a steady improvement; and, on the sixth, the cough had lost its croupy character. The voice continued rather weak, which showed the existence of false membranes on some points. Cauterization was continued once a day, for two days, together with the Alum and honey: and the child recovered. This method of treatment is considered, by M. Trousseau, to be the most certain which can be employed in cases of croup. [*Journal de Médecine et de Chirurgie Pratiques*, 1849. p. 533.]

THE VARIOUS FORMS OF DIARRHŒA IN CHILDREN; AND ESPECIALLY CHOLERIFORM DIARRHŒA, OR INFANTILE CHOLERA.

Besides lientery, there are several forms of Diarrhœa which affect infants, and with the nature of which it is important to become acquainted. *Bilious diarrhœa* is characterized by bilious mossy stools of the colour of oil. There is also a modified form of bilious diarrhœa, in which the stools resemble chopped vegetables. There is the appearance of the débris of spinage in the stools, which are also spotted with a liquid of the colour of sulphate of copper. This modification of bilious diarrhœa is very common in new-born children, but becomes more rare as age advances. *Mucous* or *glairy diarrhœa* is characterized by the resemblance of the stools to slightly boiled white of egg. This is sometimes combined with ordinary bilious matter, and more rarely with food: sometimes also blood is present. This form is commonly attended with pain, but is fortunately more amenable to treatment than the others. It appears to be confined to the large intestines. In *pseudo-membranous diarrhœa*, the stools are imperfectly moulded, and covered with a pseudo-membranous concretion of thickened mucus or fibrin. The most severe form of all, exclusive even of epidemic conditions, is the *purely serous, watery or*

choleriform diarrhœa, or *infantile cholera*, which is very common in infants at the breast.

The following is an abstract of the opinions of M. Trousseau on the symptoms of each of these forms of Diarrhœa.

In *bilious diarrhœa*, the stools are yellow and abundant, and almost always accompanied with bilious vomiting, with more or less intense fever, and increase of the biliary and pancreatic secretion. It is more manageable than lientery, and yields to remedies in children as well as in adults. It is a remarkable fact, that if the diarrhœa be very abundant, the vomiting ceases; but if, on the other hand, the diarrhœa is abruptly suspended, the vomiting immediately returns. This is especially remarkable in children, and is considered by M. Trousseau to have an important bearing on the treatment. When the stools are yellow, the patient is not severely ill; but when they are copious and green, and there is fever, the prognosis is more unfavourable. The *glairy diarrhœa* commonly depends on inflammation of the large or small intestines. There are colic and fever, but rarely vomiting. The functions of digestion and assimilation still go on to some extent. The pseudo-membranous secretions are extremely rare as a result of inflammation of the large intestines, but are most commonly observed after enteritis. In *choleroid diarrhœa*, which is the most severe form, after one, two, or three days of bilious diarrhœa, the children are suddenly seized, more frequently in summer than in winter, with irrestrainable vomiting, and with serous dejections, which scarcely colour the linen cloths green. At the same time, the child utters constant cries; the eyes are hollow, the respiration impeded, the abdomen is drawn in, and the skin assumes a blue tint; and the patient dies. M. Trousseau does not hesitate to affirm, that this disease kills more than one half of the children at the breast, for it is at this age that it is principally observed. It rages independently of an epidemic of cholera, from the age of one to two years, that is to say, during the first dentition, and attacks few children who have been weaned for some time.

Treatment. In bilious diarrhœa, the first remedy to be given is ipecacuanha, in emetic doses, of fifty centigrammes to a child at the breast, a gramme to older children, and two grammes to adults. It is given three days in succession, and commonly modifies the vomiting, diarrhœa, and fever. If it fails, ten centigrammes of sulphate of copper may be given, in four doses, at intervals of ten minutes, dissolved in water. This has produced astonishing results in three children. In one child, who had been labouring under vomiting and copious diarrhœa for three days, the number of stools was reduced from ten to three by the administration of sulphate of copper. In a second, it succeeded, after the failure of bismuth and saline purgatives. In a third child, who was labouring under morbillar pneumonia, which was treated by antimonials and digitalis, diarrhœa was arrested by sulphate of copper. Rochelle salt, sulphate of magnesia, or magnesia alone, or combined with calomel, are useful in such cases. It is good practice, for instance, to give five centigrammes of calomel in the evening, and twenty-five or thirty centigrammes of magnesia the next morning.

The green form of diarrhœa is equally well combated by the preceding means, but especially by saline purgatives, as the potassio-tartrate of soda. If, however, the stools remain green at the end of two or three days, it will be found advantageous to administer twenty-five or thirty centigrammes of magnesia, with an equal quantity of sugar, at the same time applying cataplasms to the abdomen, and administering enemata. In case of failure of these means, emetics may be employed.

In glairy diarrhœa, if there be no vomiting nor flatulent distension, the treatment may consist of injections. If the pain be severe, an injection, consisting of from five to ten centigrammes of nitrate of silver in two or three hundred grammes of distilled water, should be administered. When returned, it is immediately followed by a similar one, containing a drop of laudanum.

This is repeated once a-day for three or four days, according to the amount of glairy mucus and blood in the stools. When there are flatulent distension and fever, it is well to commence the treatment with ipecacuanha, then to give Rochelle salts, and afterwards to employ lavements, and not to give opium till there be no more vomiting. The injections may contain sulphate of copper or of zinc, the quantities being double that of nitrate of silver. It is rare, says M. Trousseau, that acute colitis will not yield to this treatment: sulphate of copper is almost as active, and quite as excellent, as nitrate of silver.

Pseudo-membranous diarrhœa is rare in children, but common in adults, especially in constipated females. It yields readily to enemata of nitrate of silver, or sulphate of zinc or copper, and to belladonna given internally. Children affected with this disease appear to void boiled rice, the stools containing the fibrinous productions developed on the surface of the intestinal excoriations, which are seated either in the rectum or the colon. It is treated as in adults: calomel may also be administered in the form of enema, by triturating one or two grammes with a thick solution of gum, and injecting it every one or two days.

The most severe form is *infantile cholera*. A child, after it has been weaned, or while it is suckling, or during dentition, has diarrhœa: this is considered *salutary* by the nurses, and by medical men, who misinterpret the saying of Sydenham, that a child's bowels should be open during dentition. This is a grave error, which should be guarded against. If the diarrhœa last one or two days, it may be let alone; but if it continue beyond that time, it must be moderated and arrested. If this be not done, a child may have diarrhœa for ten days, a fortnight, or a month, without any apparent constitutional disturbance; on a sudden, it is seized with violent vomiting and abundant serous diarrhœa; the eyes became hollow, the skin blue, the tongue cold, the pulse small, and the muscles frequently soft and flaccid like rags. The vomited matters are greenish, generally with a copper colour; the diarrhœa is so completely watery in most cases, that the linens seem wetted with urine; in other cases, they seem as if dipped in a solution of copper. The child utters continual cries, and is restless and sleepless. Sometimes the diarrhœa stops, and the vomiting becomes violent; at others, the diarrhœa and vomiting are partially suspended, but not entirely arrested; the child soon loses strength, and dies. This disease lasts from twelve hours to five or six days, but the most common duration is from twenty-four to forty-eight hours.

The first remedy which presents itself is opium. In this, M. Trousseau has very little confidence. It may arrest diarrhœa, but the vomiting continues; and if the opium be given by mouth, it is more likely to aggravate the vomiting and kill the patient, than to cure him. Astringents, such as monesia, rhatany, bistort, tormentilla, cinchona in draught and in injection, etc., are of no use in this form of diarrhœa. The only treatment on which M. Trousseau depends, is based on emetics and purgatives. As an emetic, powdered ipecacuanha is the best; among purgatives, the potassio-tartrate of soda, in doses of four, five, or ten grammes, is to be preferred. But in the proper choleraic form, we must at once use mustard baths. The child must be kept in the bath until the hands of the person holding it are attacked with an unsupportable smarting; it is then wrapped in woollen cloths, and at the same time has administered to it a little syrup of ether, with mint and Seltzer water. When moderate reaction has set in, we may advantageously give ipecacuanha and Rochelle salts, to modify the condition of the alimentary canal. If at the end of forty-eight hours, there be heat, slight stupor, and other typhoid symptoms, and the diarrhœa continue at the same time, M. Trousseau gives a mixture, containing one centigramme of nitrate of silver, with thirty grammes of distilled water and twenty grammes of syrup; and injects twice or thrice daily, an enema containing from five to ten centigrammes of nitrate of silver in two hundred grammes of distilled water. The mustard bath is continued, if required. When the nervous or typhoid

symptoms are inclined to be obstinate, the infant might be plunged in a cold bath for one or two minutes, or have a slight cold affusion. These means, aided by refreshing drinks of milk or beef tea, often put an end to the disease. We see then, that in indigenous cholera, the indications are almost the same as in epidemic cholera. Nevertheless, whatever is done, the greater number of children die, even after they are thought to be recovering. Two or three drops of laudanum may arrest the vomiting and diarrhœa; but let no one trust to this. As long as the pulse is small, and there are slight fever, restlessness, cries, etc., the condition of the child is precarious, even though the vomiting and diarrhœa have been arrested. The most favourable signs are the return of a gentle heat to the skin, and the diminution of restlessness; because these symptoms indicate, even though the diarrhœa persist, that there is nothing left but ordinary enteritis. [*Journal de Médecine et de Chirurgie Pratiques.* 1849. p. 535.]

SURGERY.

MR. LLOYD ON THE RADICAL CURE OF HYDROCELE.

The following is the substance of some interesting clinical remarks lately made by Mr Lloyd at St. Bartholomew's Hospital, and reported in the *Medical Times* for January 5th.

1. Forcible Injection of the Sac of the Tunica Vaginalis. He employed this plan some years ago in several cases among the out-patients of the hospital; at first he thought with success, but, with the exception of one case, the disease recurred in all; and what was the permanent result in that one, he had no opportunity of ascertaining.

2. Acupuncture. He had also given acupuncture a fair trial, but found it a very uncertain remedy; but oftener successful in children than in adults.

3. Introduction of powder of Hydrargyri nitr. oxidum into the sac. This is the plan of treatment most relied on by Mr. Lloyd, and he has adopted it almost exclusively at the hospital for several years. It consists of the introduction into the sac, after it has been emptied of its contents, through the canula, of the substance finely levigated. This plan has been employed in a large number of cases, and hitherto without a failure, as well as without any untoward consequence whatever. It excites the necessary degree of inflammation, with as great, if not greater, certainty than the injection of wine, of solutions of sulphate of zinc, iodine, etc. It is, moreover, a much more convenient mode of treatment, as well as a saving of much time. The mercury is introduced, the patient is left to himself, and the surgeon is at once at liberty.

4. Pressure. Mr. Lloyd lately cured a case of Hydrocele by pressure—tightly strapping up the testicle directly after evacuating the fluid. The pressure was kept up for three days, by which time hernia humoralis was established; since which the patient has gone on precisely in the same course as is usual after vinous injection.

5. Vinous Injection. This method was adopted in the case which elicited the preceding remarks. After puncturing the sac, and drawing off about thirty ounces of greenish yellow fluid, Mr. Lloyd injected a pint of undiluted port-wine, which was allowed to remain for fourteen minutes.

TOPICAL USE OF POWDERED ACETATE OF LEAD IN GRANULAR OPHTHALMIA.

Since 1834, M. Buys has employed powdered Acetate of Lead in the treatment of palpebral granulations. His success, especially in cases reputed incurable by other methods, has drawn attention to the practice of the Military Hospital of Bruges. The plan seems to be free from several objections to which cauterization with nitrate of silver is liable; and it is particu-

larly to be recommended, as curing granulations without destroying the palpebral conjunctiva, or causing the formation of bands of cicatrix tissue, the frequent sources of secondary evils.

The author thus describes his method of applying the Acetate of Lead :—"I first select", says he, "perfectly neutral Acetate of Lead : that which is sold in common shops is not always of this description, and gives rise to acute pains. A pencil, similar to those commonly used for applying a solution of the nitrate of silver, is slightly moistened in water, dipped in powdered acetate of lead, and then applied to the everted eyelid, where the granulations are situated. The eyelid is held down sufficiently long to allow the tears to moisten the salt of lead and wash off the excess. The chemical action of the tears on the powder must take place, before the eyelid be restored to its natural contact with the globe. This is one of the most important particulars to be attended to. If the tears be scanty, the pencil may be moistened by those flowing down the cheek, and then applied to the eyelid where the Acetate of Lead may still be undissolved. Whilst the eyelid is still exposed to the action of the tears, and of the air, the granulations may be seen to."

DR. JOHN CHARLES HALL, ON THE NITRATE OF SILVER AS A LOCAL APPLICATION IN ERYSIPELAS.

Dr. J. C. Hall has sent to us the following note:—"I am made (p. 58) to express the opinion, 'that, as the disease is constitutional, and not local, the repression, by Nitrate of Silver, of the outward inflammation, may often be most improper.' What I stated[1] most distinctly, was, that the application of the Nitrate of Silver *did not repel* erysipelas; but, that it limited the inflammation, and, when applied sufficiently early, prevented that fatal destruction of parts, which, before the discovery of this remedy, by Mr. Higginbottom, was, too often, a result of erysipelas. Of course no experienced practitioner would fail, at the same time the Nitrate of Silver was used locally, to exhibit such constitutional remedies as were indicated; but I think no one will deny, that the checking the local disease in the bud will have no trifling effect in mitigating the constitutional symptoms." J. C. H."

TOXICOLOGY.

ARSENIC IN UNFERMENTED BREAD.

The *Medical Gazette* has the following :—A few years since a pamphlet was published by "A London Physician," strongly recommending the employment of unfermented in preference to baker's bread. The unfermented bread is made by mixing bicarbonate of soda with the flour, and subsequently kneading it with diluted muriatic acid . . . . We predicted some time since, that accidents would arise from the use of common muriatic acid in making unfermented bread. The following extract is quoted from a letter by Mr. Davis, in the *Provincial Medical Journal* of December 26th. It comes in the shape of a communication from Dr. Henry, who says—

My attention was forcibly called to the question of impurities present in the common muriatic acid, by the injurious effects of bread made on the nonfermented principle, upon my own family and myself. In all, nausea and severe pains in the stomach followed its use (continued for three weeks before discovery); in some, instant vomiting and irregularity of bowels, though not actual diarrhœa ; and in one case (my footman), the outbreak of the arsenical eczema. I lost no time in testing the acid for metallic impurities, but, not happening to have any sulphuretted hydrogen, could at first detect nothing. When I procured some, I was astonished by its throwing down a

[1] *Lancet*, August 18th, and September 8th, 1849.

dense yellow precipitate, which I at first suspected to be tin (from knowing that the manufacturers also made muriate of tin), but soon discovered it to be Arsenic."

It has been long known to English chemists, that much of the sulphuric acid sold is largely contaminated with Arsenic. It is manufactured from pyrites, which generally contains arseniuret of iron. Arsenic, therefore, may be thus transferred to nitric acid, muriatic acid, and numerous salts in the preparation of which sulphuric acid is largely employed. It may even find its way into the diluted sulphuric acid used medicinally. Under a proper system of medical police, the sale of this poisoned acid would be strictly prohibited. [*Medical Gazette*, Jan. 11, 1850.]

POISONOUS EFFECTS OF THE BRASSICA NAPUS, OR WILD CORN KALE.

Dr. John Popham, of Cork, has lately recorded the following remarkable phenomenon: In the months of June and July of the present year, when very great destitution prevailed in the southern and western parts of Ireland, I was surprised to find a large number of persons from some of the famine-stricken districts of the Cork union, applying for admission into the workhouse hospital, with very peculiar and alarming symptoms. They were chiefly the families of country labourers out of employment, emigrating from place to place in search of work, and totally deficient of the means to procure the merest necessaries of life. They all exhibited indications of deteriorated health, the hue of the skin being uniformly sallow and muddy-looking, totally different from the brown discoloration caused by exposure to the sun; the surface was also covered with that colourless downy hair, so characteristic of what the country people here call "impoverished blood." There was generally an œdematous state of the whole body, but always of the face and lower extremities, the former being sometimes swollen to an enormous extent, the distended state of the eyelids and upper lip especially producing remarkable deformity. The abdomen was tympanitic; the bowels torpid: the mucous membrane of the mouth and pharynx was inflamed, and in some parts ulcerated, and the gums spongy; the appetite was usually greater than natural, in some cases voracious; the urinary secretion was deficient and irritating, and that of the skin suspended; very distressing frontal headache and tension was also complained of; but the most curious symptoms, next to the œdematous appearance of the patient, was the state of the hands and feet, which were dry and shrunken, with blotches of a deep-red, resembling burns, on the backs of the hands and dorsum of the feet, the fingers and toes being frequently cold and livid. Similar blotches existed on the nose and forehead, and these varied in their consequences from simple discoloration to ulceration of a most troublesome description, terminating in loss of the cuticle and dropping off of the nails, with a marked disposition, in the aggravated cases, to gangrene. The œdematous appearance of these patients was so like that of persons suffering from extreme cardiac or renal disease, that I formed at first a very unfavourable prognosis; but, on a closer inquiry, I discovered that all the persons thus affected had made use of the field species of brassica as food. Some of the worst cases had used it almost as the sole means of support; others again had partaken of it at longer intervals, and with the addition of Indian meal or other farinaceous food. From the similarity of some of the symptoms to those produced in the human body by the acrid properties of the ranunculaceæ, I thought it possible that some plants of this family might by mistake have been gathered with the Kale, but the identity of the symptoms in all the persons, who were from very different parts of the country, led me to abandon the idea. This was further confirmed by showing the patients the respective plants, when, in all instances, they at once distinguished the yellow racemes and cordate leaves of the *Praiseach buidhe*, or yellow Kale, from any other. They stated that their mode of cooking the

herb for food, was to strip the leaves, rejecting the stalk, root, and flower, and to boil them with common salt or soda. Most of them had used the Corn Kale for a period extending from one week to six, before the unfavourable effects became manifest, and these were more rapidly produced in persons previously suffering from gastric or intestinal disturbance.

I am not aware of the effects above described have been heretofore observed. The family of plants to which it belongs—the *cruciferæ*—has always been considered salutary; but in many of its genera there exists a volatile oily principle, peculiarly irritating to the skin and digestive organs. This volatile oil, which in some genera, as the mustard tribe, resides more particularly in the seeds, and in others in the root, exists, in the wild varieties of the colewort tribe, also in the leaves, which give to the tongue a disagreeable biting taste. By cultivation, this acrid property becomes more diffused and diluted. The quantity of nitrogen, also, which the *cruciferæ* contain, affords great facility for the formation of ammoniacal products; and the tympanitic condition of the abdomen is most likely due to this cause. The analogy which exists between the enfeebled capillary circulation and ulcerative tendency in the extremities arising from the use of the Corn Kale, and the more marked gangrenous effects produced by the ergot of rye, is apparent; but whether it would have proceeded to sphacelus, I am not able to say, as, fortunately, the unsightly appearance presented by the patients led them to apply early for relief. The treatment consisted of such medicines as were best adapted to restore the action of the skin and kidneys, together with mild purgatives, warm baths, rest in the horizontal position, and wholesome food. The state of the extremities required careful stimulation until the circulation was restored, when the tepid water-dressing was the best application. It was some time before many of these patients regained their former health; and in some, the blotches have left a permanent mark.—[*Lancet*, December 15, 1849.]

OBSTETRICS.

DIAGNOSIS BETWEEN REAL AND APPARENT DEATH IN NEWLY-BORN CHILDREN.

It is well known how difficult it is, to determine whether a child born in a state of asphyxia be really dead. If the pulse be not perceptible, if respiration be absent, and if the beating of the heart be not heard, it is sufficient to lead most accoucheurs to decide that the child is born dead, and to decline making any attempt at artificial respiration—too probably fruitless. It would be important to possess a certain sign that life still existed, even though all its functions had apparently ceased. M. Van Hengel thinks he has discovered such a sign.

In May 1848, he administered ergot of rye to a patient labouring under hæmorrhage. The hæmorrhage was arrested; but the infant was born apparently dead. There was no respiration; the hot bath was first tried, then alternate immersion in hot and in cold water. Tickling of the nostrils also produced no result. M. Van Hengel thought of stimulating the sacral nerves by means of a stimulant enema. Having no syringe at hand, he took in his mouth a mixture of brandy and cold water, and blew it into the anus through a pipe. He then removed the pipe, and retained the liquid in the rectum for a few seconds by means of his finger. Three or four seconds after he removed it, the liquid was forcibly ejected, mixed with meconium. This experiment made such an impression on the parents, that though they had previously thought it unnecessary to have the child baptized, they now had that ceremony performed without delay. It was not possible to further reanimate the child; and a mixture of brandy and water, injected half an hour after, flowe out immediately.

In subsequent experiments on the dead body, the liquid either returned immediately, or remained in the interior. M. Van Hengel hence thought himself authorized to suppose, that by the use of the stimulant injection, the nerves of the rectum had been acted on so as to produce expulsive action; and that this denoted *that life still remained.*

It might, however, be objected that the expulsion of the enema was due to the contractile power of the intestines remaining some time after death; and that, to give any importance to the sign adduced by the author, it would be necessary to perfectly resuscitate a child, in which this sign alone denoted the existence of life. M. Van Hengel has had the good fortune to do this; and the following case will be read with interest.

Case. Madame B. was delivered of a female child, by the natural efforts, after a labour of two hours, during which, symptoms produced by shortness of the umbilical chord were perceived. This was twisted round the neck of the child, and pulsated very feebly; the infant did not cry; the skin was bluish, and the limbs tolerably firm. The cord was immediately cut, and about a tea-spoonful of blood expressed from it; the child was placed in a warm bath, after which, a little more blood flowed. M. Van Hengel then injected an enema of brandy and water; this was ejected in three minutes, in an arched form, with meconium. The infant was baptized; and air was blown into the mouth, the nostrils remaining open. This was done very cautiously at first, but soon with more force, and with the mouth of the operator applied to that of the infant. After a little time, the thorax dilated; pressure was now made on the ribs, and it was thought that the infant performed a share of the movements thereby produced. This operation was continued for three quarters of an hour. Alternate hot and cold baths were again tried; a spasmodic respiration seemed to set in, but at long intervals. As this diminished in intensity, an attempt was made to produce vomiting, so as to cause a deep inspiration, by tickling the palate and tonsils with a feather. The desired result was obtained; the infant made a deep inspiration, but without crying; and it was necessary to press the abdomen and thorax to produce expiration. On endeavouring to repeat the experiment, the mouth was found spasmodically closed, and it was necessary to introduce the feather into the nostrils. This induced a tendency to sneezing; and a strong expiration took place. This circumstance suggested a means of producing, at pleasure, inspiration and expiration.

The barbs of a feather were cut, so as to leave them about three centimètres long at the end; the stem was then stript of them for four or five centimètres, and beyond this they were left. On introducing the feather into the nose, the tickling of the nostril produced an effort at sneezing, and consequently an expiration; when the feather was carried as far as the velum palati, there was an attempt at vomiting, and consequently an inspiration; when it was carried still further inwards, the last barbs of the feather tickled the nostril, while the others only provoked an effort at deglutition. By alternately introducing and withdrawing the feather, efforts of inspiration and expiration were produced in succession. This process was continued for half an hour.

At the end of this time, the operation was suspended, because the infant lost some blood by the nose. The object, however, had been gained; the child was alive, and cried. The next day, a tea-spoonful of syrup of marshmallows was administered to it. Every thing went on well; and the child continues to enjoy health.

Such a fact as this is sufficiently important to call for a series of analogous experiments on a large scale. Practitioners should especially not lose sight of the ingenious means employed by M. Van Hengel to promote a kind of respiration at once natural and artificial, which may be substituted, at least at first, for the always difficult process of insufflation.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, January 8, 1850.

Dr. Addison, President, in the Chair.

Two Cases of complete Intestinal Obstruction, arising from Disease of the Sigmoid Flexure of the Colon and the Rectum, in which the Descending Colon was successfully opened in the Loin. By Frederick Field and Josiah Clarkson, Esqs., Members of the Royal College of Surgeons of England. Communicated by Joseph Hodgson, Esq., F.R.S.

I. Mr. Field's Case. On May 3rd, 1846, the author was requested to see J. R——, a coach-axle forger, aged thirty-three, corpulent and muscular, and a great beer-drinker. He enjoyed good health until a year back, when he began to suffer from pain in the bowels, constipation, and tenesmus, his stools becoming scanty, and being voided with difficulty. There was also some derangement of the functions of the stomach. Three months since, all these symptoms became aggravated, and were relieved only temporarily by purgatives. He often vomited after his food; his stools were voided with more difficulty, being of a more fluid consistence, though he had not noticed any diminution in their diameter. Four days before the author's visit, the bowels had ceased to act, and all the symptoms became greatly aggravated. When seen, the abdomen was greatly distended and tympanitic; there were pain, tenderness, and some bulging over the transverse colon; the pain was paroxysmal, and accompanied by strong tenesmus; vomiting was almost incessant. Five grains of calomel and two grains of opium were ordered; to be followed by a black draught every four hours. On the following day (May 4th), the symptoms continued unabated; the urine was scanty and high-coloured. Prussic acid and castor oil were administered at distinct intervals, and the calomel and opium continued. Some relief to the pain and vomiting was thus procured. In the evening, a purgative enema and a warm bath were ordered; the injection was immediately returned, and not more than a pint could be thrown up. On the 5th of May, the colon tube was passed up, but could not be introduced more than eight inches. Twelve ounces of blood were taken from the arm; larger doses of calomel and opium, croton oil, the cold douche, were successively tried, but without any relief from the bowels, or other than a temporary relief to the more urgent symptoms; galvanism was equally ineffective. Still the patient's strength and spirits were sustained until the 15th, when they began to fail, and his countenance, tongue, and pulse, betrayed a marked change for the worse; the matter ejected by vomiting had assumed a fæculent colour and smell. It was then determined that an operation was the only resource left, and this was accordingly performed. As the patient lay on his back or belly, no indication was observable of the seat of obstruction, for the abdomen was equally swollen on both sides, and no bulging was perceptible in either lumbar region, though percussion elicited a duller sound on the left than the right side. The patient was extended on a bed with his face downwards, and a transverse incision was made in the left loin, commencing about two inches from the spine, and carried directly outwards for five inches and a half, about one finger's breadth above the crest of the ilium. The skin, fat, latissimus dorsi muscle and quadratus lumborum were successively divided, and a shining membrane exposed. This last, which was mistaken for intestine, proved to be fascia; and when it was divided, a large quantity of fat was brought into view, which was carefully cleared away, and the intestine at length exposed, at a considerable depth. Sutures were passed through it, to retain it in its position, and subsequently to affix it to the edges

of the wound, and an incision was then made into it to the extent of half-an-inch, which immediately gave exit to an immense quantity of light-coloured fluid fæces. Vomiting entirely ceased, and the patient was relieved of all his urgent symptoms. The opening in the bowel being fixed by sutures to the skin, a large bread poultice was placed over the wound, and the patient was enjoined to lie on his left side. Through the following night, the evacuations continued abundant; the belly became soft and free from tenderness, and the general symptoms were still further relieved. On May 17th, the sutures had ulcerated from the intestine, which was adherent all around to the circumference of the wound. On the 18th, the wound was rather inactive; it was syringed with yeast mixed with warm water, and dressed with lint dipped in oil, the surrounding skin being smeared with cerate. Granulations subsequently sprang up, and with occasional variations and trifling drawbacks, he proceeded favourably, and his health became ultimately re-established, and he was able to follow his former calling, which required great physical exertion. The only interruption to perfect health resulted from occasional constipation, caused, apparently, in a measure, by tendency to contraction of the artificial anus, which was remedied by the introduction of a bone glyster-pipe, and the injection of warm water; thus the passage was dilated, and the fæces were, at the same time, softened. This state of things continued until the latter part of 1847, when the patient was attacked with symptoms of hepatic disease; he lost his appetite, and became emaciated and ascitic, and ultimately died in February 1848, one year and nine months from the time of the operation.

Examination of the body. The peritonæum was found covered with lymph, the liver granular and thickened, and the kidneys congested. The stricture of the intestine was found to be in the sigmoid flexure of the colon, and was about four inches in length, this portion being filled by a plug of coagulated lymph, which became broken up and detached by maceration in spirit, leaving the intestinal tube continuous, though contracted and slightly thickened. The plug resembled the deposit which takes places in the larynx in acute laryngitis. The artificial opening was funnel-shaped, with its apex externally; the outer orifice was contracted to the size of a small goose-quill; it appeared to be lined by mucous membrane. The lower portion of the intestine was much contracted.

II. Mr. Clarkson's Case. B. F——, aged twenty-one, a robust and healthy-looking woman, applied to the author, in July 1846, with symptoms of dyspepsia, the bowels not having been relieved during the preceding five days. She was ordered an aperient pill and draught. Two days afterwards she returned, the symptoms being still unrelieved, and bowels still constipated. A stronger aperient was administered, but still without relief. On the 22nd (the bowels not having acted since the 14th), she complained of pain in the umbilical and left hypochondriac regions; the abdomen was slightly distended and tympanitic, and pressure upon its parietes increased the pain. Constant nausea, but no vomiting; pulse 110; urine copious. To take croton oil, half a drop, every second hour. On passing the colon tube, it could not be introduced further than six inches. Two pints of fluid were injected, and returned untinged by fæcal matter. The abdomen became more distended and tender; flatus moved about the bowels, and appeared to be arrested in the left iliac fossa. Leeches were twice applied, and some of Battley's solution of opium given; vomiting had commenced. Subsequently, the following expedients were tried, but in vain, to induce the bowels to act: large doses of opium, the cold douche, free injection of water into the rectum, and its retention by pressure, galvanism; and on the 26th, the symptoms becoming more urgent, an operation was undertaken, Mr. Hodgson concurring in the propriety of the step, and urging its immediate performance. The patient was laid on her belly, a pillow being placed under the abdomen, so as

to raise it. An incision, five inches in length, was carried outwards from the edge of the erector spinæ muscle, about two fingers' breadth above the crest of the ilium; the quadratus lumborum and fascia were exposed and divided, and after some loose fat was removed, the intestine was reached: four ligatures were passed through it, and fastened, two to the upper, and two to the lower edge of the wound, and the bowel then divided longitudinally between them. A large quantity of fluid fæces at once escaped. The patient, who expressed herself relieved, was placed on her left side, in bed. The discharge continued very profuse, and a poultice was shortly after applied. On the following day, the symptoms were further relieved, and the distension of the belly had subsided, the escape of fæculent matter being abundant. From this time she steadily improved, and was able, after a time, to return to her usual household duties. Whenever the bowels became confined, aperient medicine, and an injection, relieved her; but a tendency to contraction of the bowels gradually exhibited itself, which was for a time relieved by the use of bougies. This annoyance increased, and her health began to suffer seriously. After the expiration of ten months, the patient's appetite failed, digestion was impaired, and she suffered from more constant and severe pain. The artificial anus was further dilated with sponge tents, and subsequently with the scalpel; but the constipation and other symptoms were not relieved, and she vomited nearly all she took into the stomach. She died in September 1847, having survived the operation nearly fourteen months. On examination of the body, the parietal peritonæum was found mottled, tubercular, and thickened; the opposed surfaces of the intestine were glued together, and to the liver, spleen, and stomach; these adhesions were very firm, and sufficient to have greatly interfered with the peristaltic action of the bowels. The small intestines were distended with fæces, but the transverse and descending colon were empty. The mucous membrane was ulcerated at several points: the obstruction was found to be about six inches from the anus, and on a level with the fundus of the uterus. It consisted of a dense, cartilaginous substance, surrounding the intestine and completely obliterating the canal; it appeared to have originated externally, and pushed forward the fundus of the uterus, to which it adhered firmly. On section, the canal was found to be completely obliterated to the extent of half an inch. The edges of the artificial opening were rounded and smooth, and the neighbouring mucous membrane was healthy.

Mr. Hilton had seen five cases of operation for artificial anus, either performed or thought of. He alluded to a case in which he had performed the operation, the patient living for seventeen days; the case he should bring before the Society. As regards the best position to make the external incision in adults, for the purpose of entering the colon in the lumbar region, without opening the peritonæum, he had found that a vertical incision, three inches or less in length (terminating below, at half an inch above the crest of the ilium), made parallel with, and one inch and a quarter distant from, the outer edge of the erector spinæ, enabled him to bring into view the external border of the quadratus lumborum muscle, and then to expose and open the colon which is placed in front of the muscle. He could not speak to the relative merits of the vertical incision, as compared with that selected by the operators in the cases before the Society; but he had found this vertical incision available in one case of obstructed colon operated on by himself during life, and in four other like cases in which he had opened the colon satisfactorily a few hours after death; and, he added, that he had repeatedly, on the dead body, demonstrated to his class, at Guy's Hospital, that a colon, although nearly empty, may be reached and opened with safety at the lower part of such an incision, without wounding the peritonæum. He had seen no danger or inconvenience from this operation. The pain and spasm round the margin of the wound, in one of the cases before the Society, in which Amussat's operation was performed, might depend on one of the lumbar nerves

being involved in the wound. Division of the nerve nearer to its origin, might relieve the pain and spasm.

Mr. Coulson said that he could not refrain from expressing his obligation to the authors of the communication which had just been read, for calling the attention of the profession to an operation, for the want of which he felt convinced many persons had died, whose lives might have been saved or prolonged if this operation had been performed. In cases where the obstruction depends on malignant disease, confined, as far as can be ascertained, to the bowel itself, and not of great extent, it may, or may not, be advisable to have recourse to the operation recommended to-night, according to a variety of circumstances, which can only be judged of in each case, as the amount of distress, the state of the system, the feelings of the patient, etc.; but where the local mischief is complicated with disease in any other organ, then the operation ought not to be entertained. But in the cases brought before the Society, the recent occurrence of the constipation showed that there was no malignant disease; and examination with the rectum-tube indicated where the obstruction was situated; so that no doubt could exist as to the propriety of the operation in these cases.

Mr. Hodgson had known two instances in which the operation was not successful, in consequence, as he believed, of the delay which had taken place in operating. It is, however, a most difficult point to determine when to desist from other remedies, and resort to an operation. Some cases of long-continued and obstinate constipation were ultimately relieved by taking, notwithstanding the vomiting, during several days, at short intervals, repeated doses of castor oil, sometimes with a little laudanum, after more active aperients had failed. Amussat's operation was easy of performance; indeed, it involved far less difficulty and danger than a common operation for strangulated hernia. If we reflected upon the parts to be divided, we should find that none of importance required to interfered with. First came the integuments, then the muscles, and then the fascia, which at first sight had been thought to be the bowel. In one of the cases before the Society, when exposed, the fascia appeared of a dark colour, and was supposed to be the gut. It was present in all cases, and when divided, a large quantity of loose fat, very like omentum, or mesentery, was exposed. Even in these persons this was, as generally, the case; and until this loose fat has been met with and divided, the operator may be satisfied that he has not yet reached the intestine. The operation is rendered more easy in cases of obstruction by the distended state of the bowel, so that in such instances it is next to impossible that any error or difficulty can arise in its performance. With respect to the precise spot at which this portion of the colon is situated, if two perpendicular lines be carried upwards from the anterior and posterior superior spines of the ilium, and a horizontal line be drawn from one to the other of the former lines, one inch above the highest part of the crest of the ilium, in an adult the centre of the horizontal line will be immediately over the descending colon, which will be penetrated by an instrument passed in that situation. In the cases read that evening, the greatest difficulties that had to be encountered occurred in the after-treatment, in consequence of the tendency of the artificial opening into the bowel to contract. In the case of the young woman, tents, bougies, etc., were of but little service in keeping the orifice open, and he thought that a canula, or tube of gutta percha, secured by a shield, might be advantageously employed when the wound began to cicatrize and contract. Looking at the result of some of the late formidable operations for removing diseased ovaria, he thought that the fears generally entertained of opening the peritonæal cavity were over-rated.

WESTMINSTER MEDICAL SOCIETY.

Saturday, January 5, 1850.

Francis Hird, Esq., President, in the Chair.

Length of the Umbilical Cord. Dr. Tyler Smith exhibited a Funis, fifty-nine inches and a half in length. The average length is about eighteen inches; the longest of which he could find an account was detailed by Baudelocque, where the cord measured fifty-seven inches. In Dr. Tyler Smith's case, the cord presented, with the head. Such an extraordinary length was one of the causes of funis presentations; and also illustrated the power of the fœtal circulation. In this case, including the placenta, the length of the blood-channels beyond the umbilicus was upwards of ten feet, and still longer, if allowance be made for the spiral arrangement of the umbilical arteries.

Hysterical Ptosis.—Mr. Canton related the following case, which came under his care at the Royal Wesminster Ophthalmic Hospital. Emily T——, aged seventeen years, had menstruated at the age of thirteen years; the flow continued profuse for a week, when it suddenly ceased, in consequence of her being much frightened, and had not re-appeared until three weeks ago. She remained very sickly for a year after menstruating, when her eyes became inflamed, in consequence of some matter getting to them from the face of a child she was nursing. For this complaint, she was under treatment two months; and since that time has complained of dimness of vision in both eyes. She suffers pain occasionally in the head, but not of a severe kind. Light is stated to increase the impairment of sight; and when attempting to read for any time, "the letters run into one another"; or if working, she "misses seeing her needle" after a while. The pupils are dilated, but the irides are active in their movements. The patient is very hysterical, and suffers from globus, palpitation, waywardness of appetite, constipation, etc. The treatment adopted by Mr. Canton had been with a view to the establishment of the menstrual flow, by the exhibition of aloes, steel, lytta, and similar remedies, without, however, any resulting benefit. In October last, the patient found, suddenly, that she was unable to open the right eye, except by raising the upper lid with her finger, which, being removed, the lid again fell, and remained drooping. Pricking pain was now complained of in the eye, and in the corresponding temple; and she suffered still further diminution of vision. The iris, nevertheless, moved with its former activity, and the ptosis was unaccompanied by external strabismus, or a pupil larger than the one of the opposite eye. The fellow-organ continued, in all respects, the same as previously. Symptoms of an hysterical character being again present, in a marked degree, the plan of treatment was again resorted to by Mr. Canton which he had previously employed, and which for two months had been suspended. Mercury, strychnine, blisters, and such remedies as are ordinarily employed in the usual examples of ptosis were avoided, from the peculiarities presented by the case, which Mr. Canton considered might be fairly regarded as one having for its origin uterine derangement. The sequel proved this view to be based on fact; for, at the expiration of a month, (during which time the remedies were persevered in,) the ptosis disappeared as suddenly as it had occurred; and in a fortnight afterwards, the menses appeared, and continued to flow for ten days. Since that time, the vision of both eyes has been improving.

Stricture—Extravasation of Urine. Mr. Hancock was called, during last July to a gentleman suffering from Extravasation of Urine. He had suffered from Stricture for nineteen years, and had had the Stricture divided through the perinæum, and also the bladder punctured through the rectum, but without relief; as, in the first instance, the wound in perinæo was allowed to heal up without attention being paid to the urethra, Mr. Hancock treated

the extravasation in the usual way ; and in the course of a few days, with the patient's consent, again divided the Stricture through the perinæum. He kept the wound open by passing a No. 10 gum catheter into the bladder by that passage until a No. 11 silver catheter could be readily passed along the urethra into the bladder, when he allowed the perinæal wound to close, and the patient has now recovered. He considers the case of interest, as bearing upon the questions, mooted during last session, with reference to the treatment of abscess of perinæum connected with obstinate Stricture of the Urethra, and also with reference to the operation for opening the urethra from the perinæum, and its after treatment, especially in relation to the employment of the catheter. When the abscess is unconnected with an opening into the urethra, it is better to abstain from the employment of the catheter, notwithstanding the patient may experience difficulty in urinating, but Mr. H. thinks that where such complication exists (which is most frequently the case), the employment of the catheter should be carefully attended to, particularly when it has been found necessary to open the urethra through the perinæum : in such a case the instrument ought never to be entirely discontinued. To this cause Mr. H. attributed the failure of the first operation in the case just related as well as in others to which he alluded ; the catheter had been neglected, the parts allowed to heal and contract, and thus the patient relapsed.

In conclusion, Mr. Hancock spoke of the common perinæal operation for opening the urethra. He considered that the difficulties of its performance were greatly enhanced by the situation at which the urethra was usually opened, the opening being made towards the anterior part of the membranous portion of the urethra, which is sometimes completely cut across, so that when the catheter is introduced and passed along the anterior part of the urethra, it comes out through the wound, but the posterior part having nothing to support it, the sides of the canal fall together, close up, and great difficulty is experienced in hitting it with the point of the catheter ; this difficulty may be obviated by making the opening in the urethra further back, close to the front of the prostrate gland. In performing the operation, the surgeon will be greatly assisted by recollecting that the urethra, passing through Cowper's ligament, corresponds exactly to the points in the raphé of the perinæum, midway between the posterior root of the scrotum and the anterior margin of the anus ; and that a knife plunged straight in at this point will reach the membranous portion. After describing the various steps of the operation, he concluded his paper by observing, that the catheter employed should be sufficiently large to fill the canal of the urethra, otherwise the portion of the urethra behind the Stricture when divided will fall together, and the point of the instrument catch, and thus be prevented entering the bladder.

January 12, 1850.

Francis Hird, Esq., President, in the Chair.

On Primary Venereal Ulcers, not Curable by the Action of Mercury. By Benjamin Travers, Jun., Esq., F.R.S. The author observed, that it is admitted the Hunterian definition no longer applies in a great majority of cases ; and it is not at present safe to assert, or fair to presume, that all forms of Primary Venereal Sore require mercurial treatment. It is true that this remedy is generally employed, from a fear of incurring the risk of secondary symptoms, which always, more or less, follow the non-mercurial plan. Much patient inquiry, however, has shown that many primary sores do not require mercury, and that, in some, the healing process is even retarded by its use ; and there are other instances, which do not require, or will not bear, the local use of mercury, but require, for the subsequent well-being of the patient, that the system should be subjected to its action. The object which Mr. Travers had in view, was to elicit the experience of his professional brethren, with the view of forming a more precise diagnosis of those conditions which do or do not require mercury. He did not believe that there was more than one type

of lues; but its forms he had found, in conformity with the observations of others, infinitely varied. From the same source of contamination, one person may contract a gonorrhœa, another primary sores, while a third may escape altogether. Mr. Travers related a case, in which gonorrhœa, and sores requiring mercury for their cure, were contracted by intercourse with a woman who exhibited no symptom of disease. He also referred to the fact, that foreign seamen inoculate females in London with venereal phagedæna in its worst form, and to the communication of frightful venereal sores to our men and officers during the Peninsular war, by the native women. Yet those who imparted the disease had not been prevented from labouring at their ordinary avocations, and were cured by means which many would consider worse than trivial. These facts were mentioned, as illustrating the share which the constitutional susceptibility of the individual had in producing the particular form of syphilitic ulceration. An over-exclusive attention to these constitutional tendencies has, however, not unfrequently tended to mislead the practitioner. Mercury has been abruptly stopped, or given in insufficient quantity, so as only to exasperate and promote that, which it was intended to annihilate.

In the many cases, in which mercury does no good, or actually does harm, it remains to be determined whether the peculiarity is due to idiosyncracy alone, or whether the perverted action belongs in part to individual temperament, and in part to the remedial agent operating upon a poisoned system. Is there any rule, by which we may be emboldened to say, that, under certain circumstances, this remedy may and ought to be withheld? The class of cases brought under consideration were exceptions, but by no means unfrequent; and hence arose the value of the inquiry. Mr. Travers related the following case, which had forcibly suggested the question to him.

Case. A young man, a shopman, had been under treatment since May 1849, for a superficial spreading ulcer of the glans penis, covering its sides and apex, and nearly surrounding the orifice of the urethra. Mr. Travers first saw the case on the 8th of November. At this time, the edges of the sore were raised and irregular; its surface was smeared with a greasy secretion; it was deeper in some parts than in others; there was no promise of cicatrization; but, at the same time, it was not disposed to spread rapidly. The patient was sallow, of small stature; the pulse was irritable, the tongue clean, the bowels acted regularly, the appetite was unimpaired, and rest at night uncertain. He was rather anxious about the disease, but was not constitutionally ill. Mercury had been administered, both internally and locally: hydriodate of potash had also been perseveringly given. No local improvement was produced, nor had his mouth been affected in the slightest degree. Mr. Travers believed, that the case required mercury for its cure, and succeeded in getting the gums affected, in about three weeks, by the diligent use of Plummer's pill. Black wash, with a little mucilage, and a scruple of powdered alum, in a six ounce mixture, were at first applied: but the surface of the sore only became cleaner and more level. Mercurial action was kept up by the use of Plummer's pill at night, and the ulcer was dressed with cold water. A draught, containing one drop of nitric and two drops of muriatic acid, with some liquorice and poppy syrup, in water, was also administered twice daily. There was now an appearance of healing on one side of the sore, but it was less clean and wider in an opposite direction. The mercury was entirely discontinued: and ten drops of the tincture of muriate of iron were given twice a day, the cold water dressing being continued. The sore was twice touched with nitrate of mercury. The ulcer rapidly improved, and the patient regained his health and spirits. No secondary symptoms have yet appeared, and Mr. Travers did not anticipate their occurrence. In another case, in which mercury had proved inefficacious, the sore had been healed under the use of full doses of disulphate of quinine, with cold water dressing, and a trip to the sea-coast. Secondary symptoms had not super-

vened. In a third case, of a similar character, the individual remained well for some years, but had recently been compelled to quit business, in consequence of impaired health, and of penetrating local ulcers and glandular swellings. In this patient, there was some reason to suspect the presence of struma. Notwithstanding these and other similar cases, Mr. Travers was still an advocate for the use of mercury as the general rule ; but in certain cases its exhibition is, to say the least of it, useless.

Mr. Travers observed, that the sores contracted by impure intercourse are typical of one and the same poison, but people are not alike as regards *the remedy*. In this anomalous case, he thought that the explanation turned largely on a latent peculiarity of constitution, the nature of which we must be content to arrive at chiefly through the teaching of the medicinal agent. He looked, however, for an earlier, if not a better guide, in some indication to be drawn at first sight from the aspect of the local disorder, and an estimate of the powers of the patient :—a result which would require lengthened and careful observation. It is not enough to say, that struma is present in the exceptional cases : for many scrofulous subjects bear the action of mercury well. When the system is inaccessible to the action of mercury, the sooner this is known the better. It is satisfactory to know that such cases may be cured by other means, and that they do not then suffer from secondary symptoms.

In conclusion, Mr. Travers deprecated the system of giving mercury in inadequate doses, which, together with the uncontrolled disease, engenders the multifarious and hybrid disorders which seem to bear out the non-mercurialists in all their objections, if not to render their triumph complete. The mercury should be either given effectually, or wholly omitted. No one who has watched the effect of mercury, in summarily retarding the progress of some phagedænic ulcers of the genitals, can doubt its efficacy ; especially when it is considered that the patient will, after the usual interval, suffer from secondary symptoms, unless they are averted by a mercurial course.

The discussion, which was interesting but discursive, was adjourned.

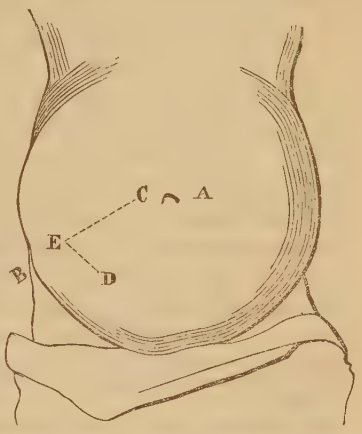
January 19, 1850.

Francis Hird, Esq., President, in the Chair.

New Operation for Ovarian Dropsy, by Mr. I. B. Brown. Mr. Brown was anxious to be understood as never having condemned operative surgery for the relief or cure of this disease. Pressure should be first tried ; and after that and other remedies had been unsuccessful, it was not only justifiable, but advisable, to have recourse to operation. He believed that the plan he was now about to submit to the Society, coupled with another which he would also mention, would be found of practical utility, and be of less danger to the patient than ovariotomy. He would not enter into the very interesting case in which this operation was performed ; he would do so fully hereafter, in the series of his cases which he from time to time should place before the profession, whether successful or unsuccessful : he would merely remark, that the patient was considered by herself, and also by Mr. Fergusson, as having only a few days of life remaining. The operation was successful in prolonging her life for some weeks. This operation differed materially from Mr. Bainbridge's ; that required the patient to be in the prone posture for many months ; this enabled her to be on her back, on water cushions, which added very greatly to her comfort, and also permitted the nurse to dress and clean the wounds without fatigue or annoyance to the patient ; the surgeon could also apply pressure over the cyst, by placing strips of plaster on the opposite side of the abdomen, and bringing them firmly over beyond the incision and open wound.

He placed the patient on the edge of the bed, in the horizontal posture ; and then, drawing an imaginary line from the umbilicus to the superior spinous

process of the ilium, and dividing it into thirds, he made an oblique incision from above downwards, and from within outwards, through part of the middle third and into the outer third. The oblique incision was about three inches in length. He dissected carefully through the muscles and fascia down to the peritonæum; through this could be seen the whitish shining coat of the cyst. He then made another smaller incision at right angles to the first, and dissected down to the peritonæum; this incision was about an inch and a half in length. At the point of the angle, *E*, a large-sized trocar was introduced, and the fluid drawn off. The canula being kept in, the peritonæum was divided from *E* to *C*, and reflected back; then the cyst was stitched by sutures to the aponeurotic tendon of the external abdominal oblique muscle, carefully avoiding the other structures. These sutures were nine in number, and were so arranged as to secure completely the cyst on all sides to the tendon of the muscle, and prevent any escape of the fluid from the cyst into the peritonæal cavity. The canula was now withdrawn, and, by means of a pair of scissors, the cyst was divided from *E* to *C*, between the sutures; a pledget of lint, soaked in oil, was then introduced into the wound, and changed occasionally, and some adhesive straps were placed across the abdomen, to keep up gentle pressure. Not a single bad symptom, referrible to the operation, followed. The second operation was performed in a similar manner, and in the same position; but a piece of the cyst was cut out, the fluid being first evacuated, and then the remaining portion of the cyst was allowed to return to the peritonæal cavity, the external wound being closed. Pressure was applied over the whole abdomen by means of adhesive strapping and flannel bandage. This operation was intended to imitate spontaneous rupture, and was only to be recommended where the fluid was of an unirritating character.



A, umbilicus; *P*, superior spinous process of the ilium; *C*, oblique incision; *D*, smaller incision; *E*, point of puncture.

Premature Labour, and Symptoms similar to those of Irritant Poisoning, induced by excessive indulgence in ardent spirits. By Dr. Cormack. After briefly referring to cases of poisoning by alcohol, detailed in "Taylor's Medical Jurisprudence," and to a paper by the late Dr. Nicol, of Inverness, in the *Edinburgh Monthly Journal* for June 1844, in which are given the post-mortem appearances in a fatal case of rapid poisoning by whisky, Dr. Cormack gave an account of a case which had recently occurred to him. The leading particulars are embraced in the following abstract. Dr. Cormack was sent for in urgent haste during the night, to a lady in premature labour, and affected with violent vomiting and extreme depression. Upon examination, a long loop of the funis was found protruding from the vagina and lying under the nates. The os uteri was so slightly dilated, as not to admit the finger without some degree of difficulty; but a head-presentation was readily recognized. The patient was a stranger to Dr. Cormack; but he has been able to obtain a complete account of her medical history. Previous to marriage (six years ago) she was subject to the globus hystericus, with associated sensations of agony and impending suffocation. For these attacks, stimulants were freely prescribed by a physician, till at last she only found relief by taking a glass of brandy. Under this system, she acquired a craving

for stimulants, which has on several occasions been irrepressible, even though, since marriage, there has not been the slightest return of the hysterical seizures. On four occasions, the excessive use of stimulants has brought on dangerous illnesses, in two of which the predominating symptoms were those of delirium tremens; and on the two other occasions, they seem to have been such as characterize gastro-enteritis. Several times she has had epileptiform seizures, immediately after taking a large quantity of ardent spirits. When abstinent, her health is excellent: and the potation impulse is often in abeyance for a very long period. She has had three abortions at very early periods, and one miscarriage about the seventh month, three years ago. At that time, she seems to have been in great jeopardy from hæmorrhage, as it appears that she was in labour for twenty-four hours, and the gentleman in attendance deemed it necessary to call in Dr. F. Ramsbotham.

The most urgent symptom which Dr. Cormack found on his arrival, was extreme depression. There was some transient mental obscuration, characterized by delirious and incoherent talking about her ordinary affairs; and she several times addressed herself to persons who were not present. The pulse was rapid, very compressible, and for minutes at a time imperceptible at the wrist. She had been taking regularly, every three hours during the day, a saline effervescing draught, prescribed by her medical attendant; but the sickness and gastric pain had gone on increasing. Dr. Cormack applied sinapisms to the pit of the stomach, and administered strong coffee with brandy; and some of the doses, which were small in bulk, remained down for nearly ten minutes, and produced a slight reaction. With this improvement, considerable oozing of blood came on from the uterus; and as the hæmorrhage increased, and the vomiting and depression became really alarming, Dr. Cormack resolved to hasten delivery by such means as the circumstances might require; and, as a first measure, he had a turpentine enema administered. Very soon, the heart's action, the respiration, and the skin, gave evidence of the improved condition of the patient; and the expulsive efforts of the uterus became regular and energetic. The vomitive straining, however, continued with great severity. In about an hour and a half from the administration of the turpentine enema, there was born a dead fœtus, of about the sixth month. During and after the birth, there was scarcely, if at all, an unusual amount of hæmorrhage; but nevertheless it seriously affected the circulation, and occasioned some anxiety from impending syncope. Dr. Cormack removed the placenta with the hand, and, through the abdominal parietes, firmly grasped the uterine tumour, till it had become so regular and reduced in size, as to prevent the risk of farther hæmorrhage. A well-padded and carefully adjusted abdominal bandage was then applied. After about twenty minutes respite, the sickness and depression returned; and, having no creasote with him, Dr. Cormack administered a pill of one grain of solid opium. It soon afterwards came up. One drachm of the Edinburgh solution of the muriate of morphia was then given, and with better effect. About seven A.M., Dr. Cormack left her calmer, of natural warmth, and altogether in a more satisfactory state, though constantly roused from broken and delirious slumbers by violent attacks of retching. At ten o'clock, the sickness was less harassing. At this time, she took a pill containing two drops of creasote, made up with crumb of bread; after which she had no vomiting for two hours, when it was re-excited by attempting to take a little cold beef-tea. Upon examining the interior of the mouth, there were found intense general stomatitis, considerable glossitis, (as evinced by the swollen and painful condition of the tongue,) and a red and turgid state of the pharynx as far down as the eye could reach. It was now ascertained that in the ejecta there had been a good deal of that sort of matter usually compared to coffee-grounds, which is often thrown up in the congestive forms of tropical fevers, and which is blood exuded into, and altered by, the stomach. During six days, she went on improving very slowly, but without any back-going, and on the seventh she could retain tepid food

in the liquid form, without pain or nausea being excited. During these six days the quantity of aliment taken was infinitesimally small, not exceeding, Dr. Cormack would venture to affirm, what an infant of a year old would take at a single meal; it consisted of a few spoonfuls of tepid beef-tea, with a solution of isinglass and gum arabic. It was only at first, immediately after taking a dose of creasote mixture, that any ingesta could be retained. This mixture, in which the creasote was largely diluted, was regularly taken after the first morning, and was the only medicament prescribed. On the third and fifth days, the bowels were moved by tepid water enemata. It was impossible to ascertain the exact quantity of stimulants which had been taken; but it was established, that during the four or five days before Dr. Cormack first saw her, she had taken no food, but had consumed clandestinely about twenty shillings' worth of various stimulant drinks, principally gin, brandy, and wine, but including some ale.

Dr. Cormack thought that the principal points of interest in this case were the three following:—

1. The extreme nervous depression caused by the alcoholic stimulants being nearly converted into irrecoverable prostration, by an inconsiderable amount of hæmorrhage.
2. The satisfactory result of the simple and easy means used for inducing uterine contraction:—viz., in the first instance, the turpentine enema causing quick expulsion of the fœtus; and subsequently the grasping of the uterine tumour, arresting and preventing the hæmorrhage.
3. The satisfactory recovery under the combined influence of abstinence, and of the creasote, which allayed the vomiting, and acted as a specific sedative upon the inflamed and morbidly-excited mucous membrane, and nerves of the alimentary canal; and thus, beneficially upon the system generally.

Dr. Daniell doubted very much the propriety of giving creasote in such a case. It was generally used only in cases of vomiting from passive disease. From its acrid properties, it would increase inflammation.

Dr. Snow said, that though creasote was a local stimulant, it possessed decided narcotic properties. In the *Provincial Medical Journal* a case was recently related, in which a patient became insensible from inhaling the vapour of this medicine too freely applied in tooth-ache—in which affection, Dr. Snow believed, the benefit was to be attributed to the narcotic properties of the creasote. Experience alone could decide, whether it could be advantageously given to allay morbid irritability of the stomach, when inflammation was present.

Dr. Sibson remarked, that there was nothing irrational—but the contrary, in treating the injurious effects of one stimulant and narcotic, such as alcohol, by the administration of another stimulant and narcotic, such as creasote. Michaelis and Humboldt found, that when the excitability of a muscle was first stimulated, and then exhausted by an acid, its excitability could be again immediately stimulated, and subsequently exhausted, by means of opium. The excitability of the muscle thus a second time exhausted, and now by means of opium, could be again roused and again exhausted by an acid, the effects of which could again, in like manner, be removed by the opium. In a similar manner, the injurious effects of the alcohol in Dr. Cormack's case was rationally met, by the counteracting effect of creasote; and it had likewise also been successfully met by the administration of opium—another stimulant and narcotic.

Dr. Cormack had given creasote for a great number of years, in cases of vomiting depending on different causes; and although it possessed acrid properties when undiluted, and was properly classed among the narcotico-acrid poisons, yet, when judiciously administered in medicinal doses, it was a sedative very similar in its behaviour to prussic acid. So far from there being any objection to the application of creasote to inflamed surfaces, it possessed

an almost specific effect in controlling inflammation, being in that respect similar in its operation to nitrate of silver. The solid nitrate of silver and pure creasote were often almost magical in their beneficial effects, when applied to an inflamed surface:—and in such cases dilute solutions were often much less safe, being actually more apt to produce a violent increase of the local action.

Adjourned Discussion on Mr. Travers, Jun.'s, Communication on the Forms of Venereal Ulcer. Various Fellows addressed the Society; but we find it impossible to appropriate space to their speeches, as the facts and opinions stated, though interesting, were not novel; and in some instances did not specially bear upon the points suggested by the author for discussion.

Mr. Acton would confine himself to two or three questions. 1. What is a venereal sore? Previously to discussing syphilis, this preliminary inquiry must be settled and agreed upon. That sores, venereal and of other kinds, are met with on the organs of generation, no one would doubt;—but what was the meaning of a venereal sore? Different practitioners entertained opposite opinions on this preliminary inquiry, as might be observed by the speeches delivered on this occasion. He (Mr. Acton) was in the habit, when attached to the Continental hospitals, of inoculating sores. When the characteristic pustule appeared, no doubt could exist that he had to treat a venereal sore. By watching a large number of such chancres, and treating them without mercury, proof positive was afforded that they were curable without mercury, and, in the large majority of cases, secondary symptoms did not follow. Such was the result in simple uncomplicated chancres or venereal sores. But if the venereal sore were complicated, that is to say, if it were aggravated by irritability of constitution, bad diet, by phagedæna, induration, etc., and mercury were indiscriminately given, the consequences were of the most serious kind. These experiments clearly showed why the great differences existed as to the proper treatment of venereal sores. Mercury was required for some forms of indurated sores, iron for the phagedænic and irritable, opium for the inflammatory, as he had elsewhere shown. Syphilis no longer bore any specific treatment; the day was past in which to say that, if a sore did not get well of itself, mercury must be used; this was a fatal error, attended with the worst consequences both to surgeon and patient, and yet it was still followed. In the short time given to the discussion of such an important subject, all the material points could not be touched upon, but simply some of the leading facts. Mr. Acton attempted in every possible way to lay aside the use of mercury, even in the indurated forms; he tried to omit it particularly when the sore occurred in delicate constitutions, and substituted iodide of potassium with excellent effects. In private practice, however, another question of no less importance arose: was it expedient to omit the employment of the mineral? This would be answered in a different manner, according to the experience of surgeons. He might relate a case, which put the question not in a scientific view, but bore on the point of expediency, as interesting to the junior members of the profession.

A gentleman consulted him with an indurated sore. It was thought that mercury might possibly be avoided, and the iodide of potassium was tried. The treatment succeeded in removing the induration, but secondary symptoms followed; the patient consulted an eminent surgeon, Mr. Acton believed the father of the author of the paper, and mercury was at once prescribed; the patient naturally recovered, but he, Mr. Acton, lost his patient, and was told by some over-indulgent friends of the gentleman, that he, the patient, would probably have lost his nose had the potash been persisted in. These cases were not frequent; but those who attempted to treat patients without mercury were exposed to such consequences; results like these, however,

would never deter him from attempting to cure patients without mercury, particularly in delicate constitutions; and he should shortly, in a new edition of his work, show what could be done with iodide of potash, even under the most unfavourable circumstances.

Now, although not an advocate for the indiscriminate use of mercury, he was convinced that when given, it should be administered in sufficient doses and continued for a sufficient length of time; half the relapses depended on this omission. As to this or that preparation being preferable, he was at issue with much that had been said on the subject; he believed that there was more in the mode of administering than in the preparation itself. But the discussion of these matters would occupy too much time, on an occasion like the present, when he had come rather to learn the opinion of others than to communicate his own.

Mr. J. F. Clarke, with reference the remarks of various speakers who had advocated the use of mercury, mentioned, that in some countries. where the mercurial treatment of the venereal disease had never been adopted, secondary symptoms were unknown.

Mr. Travers, in reply, would reiterate his inquiry, as to whether our collective experience could supply a general rule, whereby we might at once recognize and distinguish certain primary sores, contracted under circumstances which would admit of no doubt as to their origin, but which could not be mercurialized either with safety or success; and further, what were the conditions which should lead one to decide against the internal use of mercury. The discussion on his paper, though often irrelevant, had been illustrative of the fact, that the venereal disease has gradually become milder in its character, although there are many cases in which the Hunterian definition still holds good, and for the cure of which mercury is indisputably necessary. In the occasional appearance of such cases, he was a firm believer. He had been led to reconsider the subject by observing cases, of the origin of which there could be no doubt, but which would not yield to the ordinary modes of treatment. He did not refer to chaps or excoriated surfaces, which only require to be let alone; nor did he speak of the pseudo-syphilitic or gonorrhœal modifications of the disease. But he referred to certain ulcers, of indubitable syphilitic origin, which appear from seven to ten days after connection, varying much in their subsequent history and complexion, but which do not only not yield to mercury, but are actually retarded, if not actually hindered from healing, by it; a form of the disease which, in fact, *will not bear to be mercurialized any longer*. Of these sores, some are flat, others excavated: in some the surface is moist, in others dry or clean; in one instance, the edges are raised and irregular; in another, level or excavated. Still, they have this character in common, that they are indolent—whether spreading or contracting, the work is slow and uncertain.

His remarks were intended as indicative of the kind of observation, which should enable a surgeon to decide positively whether mercury should be employed or not, instead of waiting for the empirical teaching of the remedy. In addition to the local appearances, we have as guides the temperament or constitution of the individual. The explanation of the virulence of syphilis in the French army before Naples, and in the British army in the Peninsula, seemed to be, that it underwent amelioration at certain epochs or in certain climates, while at other places or times it has broken out, as it were, afresh. The law of which he was in search must be founded on such considerations, and on the right appreciation of such circumstances as poverty and intemperance, and the general aspect of epidemic diseases at the time.

Mr. Travers replied to a remark, that the matter of gonorrhœa will not produce a sore, to be followed by secondary symptoms; and referred to the experiments of Mr. Hunter, and to the common opinion held among surgeons of the present day, that gonorrhœal matter, applied to a broken surface, may produce all the secondary symptoms which arise from genuine syphilitic

poison. In conclusion, Mr. Travers remarked, that if the assertion of several army authorities be correct, that mercury may be dispensed with, it is a proof that the power and resources of the human constitution are eventually superior to the influence of the poison; but he thought that some of the cases would have done better if mercury had been used for their cure. In private practice, he dared not withhold mercury when the local symptoms were well marked. But as it was well-known that many ulcers could be, and were healed without it, he asked for greater refinement of observation, and an accurate discrimination of cases, in the further progress of this inquiry.

Dr. Henry Bennet would like to ask Mr. Travers, before the society adjourned, whether he did not think that the observations of Ricord, as to urethral discharges only producing chancres, in those cases in which there was actually a chancre within the urethra, explained the statements of Mr. Hunter, without proving the identity of gonorrhœa and syphilis.

Mr. Travers said he had quoted the experiments of Hunter as he had found them, and he had no reason to distrust their accuracy.

SURGICAL SOCIETY OF IRELAND.

December 15, 1849.

Andrew Ellis, Esq. in the Chair.

Case of Cauliflower Excrescence of the Uterus. By Mr. Tufnell. The author trusted that the history of this case might cause the ligature to be more employed; for in no instance could appearances be more unpromising, and yet, comparative health was for a time restored, and life considerably prolonged.

Susan N——, aged forty-two, of small stature, sharp features, and with dark brown hair, the only child of parents who both reached an advanced period of life, was married at twenty years of age. Her first child was born within the year, and lived till it was six years old. At her second confinement, she had still-born twins; her third, fourth, fifth, and sixth children, were also still-born, delivery occurring in each case between the seventh and eighth month. The seventh child was born alive, and is healthy and strong. The eighth and last child, she also carried to the full time: the labour was protracted, and finally terminated by cephalotomy, and the removal of the body of the child. This occurred five years since. She never entirely recovered; she suffered at first from dyspepsia, then from flatulence and loss of appetite, and finally her spirits gave way. Three years ago, she suffered from menorrhagia; it, however, spontaneously ceased, and did not recur until the early part of the year 1848. Her menstruation was always regular as to time, but generally in excess. In February 1848, it became violent, and till she came under Mr. Tufnell's care in June, hæmorrhage had never ceased, and was increased at the monthly period. Upon making an examination, for the purpose of ascertaining the cause, he found the upper half of the vagina to be filled with cauliflower growth. Its surface was of a mottled gray appearance, exuding florid blood, its interstices filled with coagula, the whole forming a tuberculated mass with a sickening fœtor. The complexion was pale and wan, and the skin was of a tallowy shade. She could scarcely drag herself along.

Satisfied that nothing but removal of this fungoid growth could check the bleeding, and thereby offer a chance of prolonging life, Mr. Tufnell obtained the valuable opinions of Drs. Montgomery and Beatty. The latter kindly offered her a bed in the City of Dublin Hospital. A salmon-line ligature was placed by Dr. Beatty (with the aid of Gooche's canula) round the base of the growth, cutting through a considerable portion of it at the time; the remainder came away upon the seventh day. Little pain was experienced; that felt being rather a dragging sensation than actual pain.

She was progressing favourably, and indeed might have been regarded as convalescent, when, from incautious exposure to cold, she was attacked by inflammation of the lung. Her life was in danger; but she left the hospital late in autumn, with her general health good, and her person inclined even to be fat. She did work as a domestic servant, and continued actively employed in this capacity for nearly six months.

During this period, she was again under the author's care. The functions of the uterus were healthy, the catamenia appearing at the ordinary time. The surface from whence the malignant growth had been removed, had healed into the dimensions of a shilling, leaving a healthy-looking raspberry ulcer surrounding the orifice of the womb, with an elastic cartilaginous base, of the size of a half-crown. To this ulcer escharotics were constantly applied, and the disposition to fungous growth thereby kept in check. The ulcer, however, obstinately refused to cicatrize beyond the point to which it had at first healed. The tendency of this ulcer to reproduce fungous growth was most unequal. Sometimes it would remain indolent for a considerable time, then suddenly, as it were, spring into life. After each menstrual period, the surface became more spongy, and the granules of a deeper red. During the whole of this time, the patient made no complaint of pain, but had occasional stitches running, or rather shooting, from the pubes to the lumbar glands. All tendency to hæmorrhage was controlled, and the local affection restrained to a small ulcerated spot, insensible to any escharotic that was applied. Internally she took either a cold infusion of bark with sulphuric acid,or mineral acid alone. This, and an occasional purgative of colocynth, with hyoscyamus at night, constituted the medical treatment. Nothing could be more satisfactory than her condition at this time. In June, however, whilst using exertion during her menstrual course, violent hæmorrhage came on, from the cavity of the uterus—not from the surface of the ulcer. Gallic acid, in five-grain doses, repeated every third hour, tincture of Indian hemp, muriated tincture of iron, infusion of matico, and ergot of rye, were all in turns employed to suppress the discharge of blood; but, as might have been expected, failed to do so whilst she continued to move about. Being much weakened by the hæmorrhage, and incapable of following her employment, Dr. Beatty kindly re-admitted her into the City of Dublin Hospital, when, under constant rest, the bleeding again ceased, and she returned to her home once more. Shortly afterwards, in the early part of August, she was attacked by diarrhœa, the discharges being frequent and large, consisting of watery fæcal fluid. Opiate enemata and astringents produced only temporary effect, the purging constantly recurring up to the 27th of September, on which day it finally ceased, shortly however to be followed by sickness and vomiting, rejection of the contents of the stomach, and lastly of the bowels as well. Tenderness of the abdomen supervened, and symptoms of strangulated intestine ensued: no hernial tumour could, however, be found. She gradually sunk: and died upon the 4th of October 1849, one year and five months after the removal of the growth.

For the six weeks preceding death, no treatment was adopted to check the fungoid growth; and an inspection of the preparation will show, that the moment escharotics were laid aside, it again sprung into being, a small tumour having sprouted from the anterior lip of the womb, where it may now be seen to exist.

Dissection twenty-four hours after Death. On opening the cavity of the abdomen, the uterus was seen prominent, of a greyish hue, mottled with purple spots, smooth upon its surface, of the dimensions of a large pear, its fundus being upon a level with the pelvic brim, wedged in between the bladder in front, which bore a healthy appearance, and the rectum behind, which was of a deep purple hue, convoluted and nodulated as if filled with solid fæcal matter, but which subsequently proved to be masses of scirrhous deposit. The peritonæum covering the intestines, as well as that lining the abdomen,

was subacutely inflamed, more particularly towards the right iliac fossa. In many places, the peritonæum was studded with small tubercles, varying in size from a millet seed to that of a pea. The liver was firmly adherent to the diaphragm : its substance was soft, of a pale nutmeg colour, and slightly greasy. The spleen was healthy. The right kidney was preternaturally soft, but bore no other signs of disease. The left was of natural size, and externally bore a healthy appearance; but when cut into, the pelvis was found filled with clotted blood, and a small fungoid growth, apparently of the same character as that sprouting from the womb, was seen occupying the upper portion of the tubular structure in the substance of the organ, between two of the mamillary processes. The pancreas was slightly enlarged, but of normal consistence. The stomach and duodenum were healthy, as also the small intestine, down to the right iliac fossa. Here a knuckle of this gut was impacted between the right border of the fundus of the uterus, the ilio-pelvic brim, and the edge of the rectum. In this position it had become fixed by adhesions of old standing, and in addition was acutely inflamed, the peritonitis radiating from this spot over the whole abdomen. The colon was unaltered till, approaching the sigmoid flexure, it became thickened ; and below this point, it was so condensed by scirrhous deposit, and its cavity so constricted, as barely to allow an urethra bougie to pass. The upper portion of the rectum was similarly condensed, the lower portion being still free. The aorta and vena cava were surrounded by the lumbar glands in an hypertrophied condition. Upon removing the pelvic viscera, and making a longitudinal incision through the whole, the following was the appearance of the parts. The upper portion of the bladder was healthy, but its base, anterior and posterior walls, were much thickened, and studded with cancerous masses developed in the submucous tissue ; one of these, a pisiform body, occupyied the entrance of the urethra. The mucous surface was highly vascular, but not abraded in any part. The opening of the ureter was patulous on both sides, its valvular condition being lost. The vagina was healthy as far as the cervix uteri. Here, between the anterior lip and orifice of the womb, a small cauliflower growth had sprung up, from the submucous tissue, during the few weeks that the escharotics had been laid aside. The walls of the vagina were thickened, the anterior with the base of the bladder, together forming a scirrhous mass more than half-an-inch in depth. The cavity of the uterus remained ; the walls of this organ were hard, thickened, and condensed. The ovary upon the right side was glued to the fundus of the womb. Upon the left side it was altogether lost in the cancerous mass. The rectum, taken from below, retained almost a natural cavity up to the point of the coccyx. Its mucous surface was much congested from the constriction above, of a deep purple colour, hypertrophied, and hanging in folds. Beyond the coccyx, the cavity of the intestine had nearly disappeared; the bowel having been converted into a solid mass, permeated by an irregular sinuous way, pervious to fluids, but not permitting any solid matter to pass. It was this irregular constriction, this binding in of the gut, that, viewed *in situ*, established the idea of scybala being lodged in the parts. I succeeded in removing the whole of the parts engaged.

Microscopic Examination. The fungoid mass under the microscope, at a power of 250, showed the presence of nucleated cells and other phenomena, now commonly supposed to be peculiar to malignant growth. Of the cancerous character of this case there could be no doubt, springing as it did directly from a scirrhous womb ; the finding, therefore, of these bodies, supposed to be characteristic of cancer, in this specimen, was confirmatory of the truth of the views of Müller. A drawing of the ultimate structures, as viewed under the microscope at this power, taken by the aid of the camera, by Dr. Carte, closely resembled the figure (No. 2) delineated as the microscopic appearance of cauliflower growth, depicted in the October number of the *Edinburgh Monthly Journal* for 1842, in connexion with a paper on this

subject, by Dr. Anderson of Glasgow. The white substance which constitutes the bulk of the structure, Dr. Anderson considers to be formed by a membrane of extreme tenuity as a matrix, which, amply supplied with blood, creates, by a change in the corpuscules, this whitish substance, a lardaceous or cauliflower structure, having all the characters of soft cancer: being, in fact, a growth by imbibition *from* the blood, but *beyond* the capillaries.

Remarks. A difference in the two cases (and one of importance), is, as regards the formation of the central or fibrous portion of the tumour. Dr. Anderson considers it to have been an hypertrophied condition of the neck of the womb. In the case before us, however, this central, hardened structure, which resisted the action of the ligature at the time of being applied, when the circumference, or softer portion, was cut through, must have been a portion of malignant growth; as inspection of the preparation shews the neck of the uterus to be perfect, the cauliflower excrescence having sprung from the sub-mucous tissue covering its anterior lip.

The immediate occasion of death, there can be little doubt, was peritoneal inflammation, consequent upon the implication of a portion of the small intestine in this disease.

By reference to the preparation shewn, the intestine was seen pinched in, and adhering to the structures between the rectum and the womb: its being so, Mr. Tufnell considered as consequent upon an *effort of nature* to establish a passage for the contents of the bowel into one of the natural outlets of the body, when its further progress was arrested by the schirrous deposit, and obliteration of the cavity of the gut. In similar cases, the desired communication has been established. A case in point is reported by the late Dr. Beatty, in the *Transactions of the College of Physicians* for the year 1830: "The principal complaint of the patient was incessant vomiting and inability to pass her stools, from what she termed a lump in the passage. A few days subsequently the nurse informed me that the stools came from the vagina when the patient endeavoured to pass water: the truth of this statement was doubted, from the absence of feculent smell. Subsequent dissection, however, proved the fact: a convolution of the ileum near its termination dipped down into the pelvis, and passed in a curved line from left to right, between the back part of the vagina and rectum. On endeavouring to draw up this fold of intestine, it was found to adhere to the organs between which it passed. The anterior surface of the rectum was perforated by an ulcerated opening, communicating direct with the vagina, the ileum also opening into it at this spot. This communication contributed largely to the comfort of the patient, by affording a ready outlet for the contents of the bowel; thus preventing any accumulation in the large intestine, whilst the fæces at the same time passed off in a comparatively inoffensive state, not having acquired that peculiar odour which they gain on entering the cæcum." The case before us greatly accords with the one related by Dr. Beatty, but differs in one important point. "I do not remember," says Dr. B., "to have met with an instance of this disease (scirrhous uterus with cauliflower growth) in which an early interruption of connubial intercourse had not taken place." Susan N. had never been separated from her husband for any length of time, and had borne eight children, dispersed over eighteen years.

As to the propriety of interfering with a disease which we know must eventually terminate life, Mr. Tufnell observed, that it is by many considered impolitic to undertake an operation which *must* have an unsuccessful result; but this feeling should never prevent a man from doing that which experience tells him will tend even to the prolongation of life, more particularly when acute suffering does not accompany the operation. He might safely say, that Susan N. could not have survived two months in the condition she was in, when the fungoid mass was removed. Yet, what was the actual result? Despite of additional illness from inflammation of the lung, she was restored to temporary health; and even enabled to earn her bread by active employ-

ment. Could she have enjoyed those advantages which fortune bestows, the progress of the disease might have been longer stayed. The very employment she followed—viz, going constantly up and down stairs, was the opposite to what we should enjoin upon a person in her situation; nay, the very walking a distance so frequently, to have the ulcer touched, must have had an injurious effect. Neither hæmorrhage from the base of the tumour, nor constitutional irritation from the constriction of the ligature, occurred.

Mere removal of the fungous growth is likely only to afford temporary relief, so great is the tendency to reproduction. Once removed, and its base laid bare, we must assiduously apply escharotics to the ulcerated spot, in order to check reproduction. In the case now under consideration, a variety of caustics and astringents were employed—nitrate of silver, nitric acid, acid nitrate of mercury, and sulphate of copper, together with undiluted goulard, the latter being chiefly resorted to at the termination of the menstrual flux, More benefit, the author said, accrues from the frequent changing of these applications than from the continuance of any particular one. Much stress has been justly laid upon the lasting effect produced by the application of the actual cautery to the spot: but this imposes the necessity for a second person to assist in its use. Were he to give preference to any one in particular, it would be the nitric acid, used pure or diluted, according to the effect to be produced.

In the application of this or any other fluid caustic, I use a very simple and efficient contrivance—viz., a stout glass rod, with an eye at one extremity, through which the end of a piece of lint is placed. This, twisted firmly round between the fingers and thumb, forms a spongy bulb, which, dipped into the fluid, will retain whatever quantity it may be requisite to apply, without any disposition to drip.

Remedies calculated to check the formation of fungus, and thereby prevent hæmorrhage from the spongy growth, are useful. During the attacks of menorrhagia, he had full opportunities of testing the relative value of turpentine, mineral acids, muriated tincture of iron, gallic acid, alum, lead, matico, ergot of rye, and the tincture of Indian hemp. Of all these, the most decided benefit followed the use of the ergot of rye, given in ten-grain doses, at intervals of four hours, repeated up to the fourth or fifth time.

Dr. Johns, thinking the society would like to see the morbid parts of the case treated by Mr. Anderson of Glasgow, had brought them with him to the meeting. The ligature had been passed round the tumour; but he was inclined to think that the whole of the diseased mass had not been removed, as the disease had returned. After the operation, the woman went away, and subsequently came under the observation of Dr. Montgomery, who removed a similar tumour by means of a ligature. Dr. Johns exhibited the morbid specimens removed from the patient referred to, and at the same time showed a drawing illustrative of a similar disease, which had been removed by himself from another female by incision. In this instance, he laid aside the ligature, and removed the diseased mass by incision, after the method recommended by Lisfranc. The disease was of very long standing; and the patient, who was greatly debilitated at the period of the operation, sank from hæmorrhage at the end of a week. The disease was almost sure to return, unless the morbid mass were completely taken away. Dr. Simpson had published several cases, in which he had successfully employed the ligature; and the reason that the disease had not returned in these cases was, because the entire of the diseased structure had been removed. In Mr. Tufnell's case, however, it was evident that the ligature had passed through the diseased mass. He thought that in every instance in which the disease had returned, this was caused by the ligature not being placed sufficiently high to reach the healthy portion of the uterus. Notwithstanding the result of the case upon which he had himself operated, he was of opinion, that in most instances, the cure by incision was preferable to the ligature; for

he had no doubt that the woman to whom he had alluded would have survived the operation, if she had not been in the debilitated condition he had described. He would strongly recommend, that in every case in which incision was to be employed, a ligature should be applied, and left on for at least twenty-four hours previous to the operation.

Dr. Montgomery begged to offer one or two remarks in reference to the allusions which had been made to him, in connexion with a case upon which Dr. A. Anderson, of Glasgow, had operated once; and in which the disease had subsequently returned. It was stated that he (Dr. M.) had operated upon this patient a second time, and had removed *another portion of the tumour*. The course he took was not to remove any *portion* of the tumour. He passed a ligature as high as he could reach upon the surface of the uterus, and removed *a portion of the healthy structure, together with the whole of the diseased mass*. The woman was at present quite well, although six years had intervened since the operation.

Dr. Johns thought the remarks made by Dr. Montgomery tended to fortify the position he had taken, which was, that if the healthy portion of the uterus be included in the incision, the disease would not return.

Mr. Tufnell said, that a case like the present precluded the possibility of ligature being so applied. The whole uterus was in a scirrhous state, and the fungoid growth was but an offshoot from it.

Dr. Banon hoped that Dr. Montgomery would state his experience, as to the relative advantages of incision and ligature in the removal of these growths.

Dr. Montgomery said, that if he had acquired much experience as to the relative value of the two operations, he would gladly state his views; but he had but little experience in operating with the knife upon these tumours. He had almost invariably employed the ligature, and, upon the whole, the result of his practice was such as to induce him not to alter this course. He was fully aware that other practitioners had excised these growths with remarkable success. But he also knew that some of the cases so treated had terminated in a truly lamentable manner, from profuse hæmorrhage resulting from the operation. Perhaps excision might be employed with advantage in a few cases; but, as far as the removal of polypi and scirrhous growths was concerned, his opinion was altogether in favour of the ligature. With respect to the glass rod, he was unable to perceive any valid objection to its employment; it was used through a speculum, and if it were managed by a steady hand, he did not think that a jerk on the part of the patient would be likely to fracture it; but even if it did, there was, after all, no danger to be apprehended. He had himself been in the habit of employing for this purpose, in the application of escharotics, a material of a very unpretending character, but which he had nevertheless found exceedingly useful—namely, *a piece of deal stick*. These sticks might be formed of the requisite length and thickness by means of a penknife, and soaked to such a degree of saturation in the acid as would ensure the application of a sufficient quantity of the liquid without the possibility of any portion of it dripping back into the vagina, a very unpleasant accident in such cases. He concurred as to the general insensibility of the surface of the uterus in these cases; but it was impossible to determine beforehand, that the application of escharotics would not cause pain; and even sometimes, after they had been, to all appearance, applied with impunity, at the end of two or three hours the most agonizing pain would come on.

Dr. Stapleton had found a stick of "prepared vine root" a very useful instrument for the application of escharotics. Nothing further was necessary, than to dip it into the acid before using it. He had always been able to apply acids and other escharotics with these sticks, without the slightest danger of dripping.

MISCELLANEOUS INTELLIGENCE.

The Proposed Junction of the Medical Society of London with the Westminster Medical Society. We understand that the deputations elected by the respective Councils of the above Societies have met in conference, with a view to carry out the proposed amalgamation, and we believe it is the wish of the active movers in the change, that the principles of the United Society shall be both comprehensive and liberal. The great boon to the members of our profession of a society, in which every department is represented on conditions of perfect equality, cannot be overlooked, and that the "Medical Society of London" will take a high position among our metropolitan institutions, we cannot entertain a doubt. The antiquity of the parent Medical Society of the metropolis, its valuable ancient library, consisting of upwards of fifteen thousand volumes; its Fothergillian fund, and freehold house, together with a list of about one hundred Fellows, in which are numbered some of the most distinguished members of our profession, constituting what we may term its contribution to the amalgamated society. On the part of the Westminster Society, about two hundred and fifty subscribing Fellows, and a long list of honorary Fellows (in both of which lists we find most active and distinguished men), in addition to a well filled exchequer, will form their share in the new Society. The locality is to be in the vicinity of Saville-row; and in addition to the advantages of a good circulating library, a reading-room, and capacious accommodation for the discussions, a proposition has been made of combining the advantages of a Club, for the especial accommodation of the suburban members of the Society. This department, if carried out, will be somewhat analogous to the arrangement which formerly existed between the Royal Institution in Albemarle-street, and the Alfred Club contiguous to it, in which the literary Fellows, who felt disposed, enjoyed the privileges of the social Club, and the members of the latter were eligible to the advantages of the former.

Dinner at Edinburgh to Dr. George Paterson. On Friday, 4th January, Dr. Paterson, Secretary to the Royal College of Physicians, was entertained at dinner in the Archers' Hall by a large party of his professional and personal friends, on the occasion of his leaving Edinburgh to settle at Tiverton, in Devonshire. Dr. Seller, President of the Royal College of Physicians of Edinburgh, occupied the chair. Professor Syme, President of the Royal College of Surgeons, officiated as croupier. Dr. Charles Ransford, who preceded Dr. Paterson as Secretary to the College of Physicians of Edinburgh, received a dinner about twelvemonths ago, in similar circumstances, viz.: preparatory to his settling in Alnwick, Northumberland.

Royal Infirmary of Edinburgh Report for 1849. It appears that the number of patients admitted during the year, from the 1st October 1848 to 1st October 1849, with 320 remaining over the previous year, amounted to 4006; of whom there were dismissed,—cured 2466, 391 relieved, 179 with advice, or at their own desire, 86 as irregular or improper, and 84 as having received no benefit; the number of deaths were 518; amounting in all to 3724; thus leaving in the hospital on 1st October last 282. In these numbers were included 726 cases of fever, and 132 cases of cholera, 88 of the former, and the same number of the latter having proved fatal. The daily average of patients was 322, the greatest number 350, and the lowest 280. The greatest number in 1846-47 were 7705, and in 1847-48, 7766; thus showing a diminution this year of about 3709. For the first time for many years the ordinary expenditure has been brought within the ordinary income to the extent of 614*l*. The remaining properties in Surgeons' Square, with the ex-

ception of a house belonging to the Medical Society, have been purchased. The managers are now able to proceed with the proposed additional buildings without interfering with the existing capital stock of the corporation, through legacies and other bequests added to the surplus of the present year. The Royal Infirmary is the only hospital in Edinburgh.

Medical Men and New Medical Books in Europe.—"We are informed that Copland's *Medical Dictionary* is in a fair way of completion, there being but two more numbers to come besides the 'Index', and one of these is now in press. Dr. Copland has promised that the whole shall be completed within a year from this. He is in good health, and looks as if he might write another dictionary as large as the present, if necessary.—Dr. Marshall Hall intends soon to visit the U. S.—Dr. Forbes is preparing a work on 'Young Physic', which he says will close his professional career. Ricord and Civiale take the lead in their respective specialities, and are overwhelmed with business. In Edinburgh, Prof. Simpson takes the lead; especially in diseases of females, having patients from every part of the globe."—*Boston Medical and Surgical Journal.*

Professional Nationality. "In illustration of the *Clannish* rule by which the Directors-General of the Medical Departments of the Army and Navy are governed, the following tabular analysis has been prepared. It is a really curious document, and shows respectively, the comparative number of natives of England, Scotland, and Ireland, with their rank in the service —viz.

Inspectors-General.	Dep. Inspectors-General.	Staff-Surgeons 1st class.	Staff-Surgeons 2nd class.	Assistant Staff-Surgeons.
Scotch 3	Scotch 7	Scotch ...21	Scotch ...26	Scotch ...61
Irish 2	Irish 3	Irish 10	Irish 14	Irish 10
English.....0	English.....2	English ...4	English ...10	English.....6
	West Indian1			Colonists ...2

In addition to the above, we notice that the '*Blane Medal*,' founded by the late Sir Gilbert Blane, which is awarded by the Council of the College of Surgeons on the recommendation of the Director-General of the Medical Department of the Royal Navy, Sir William Burnett (another Scotchman), that eight out of ten are Archy McSycophants, Campbells, and Macduffs."—*Lancet*, 26th Jan., 1850.

Have Sir James M'Grigor and Sir Wm. Burnet planted and made to prosper Scotch physicians in nearly every town of England? or, how is the preponderance of Scotchmen in the H.E.I.C. service to be explained? We believe that medicine is as much a pet profession with the Scotch, as cookery is with our French neighbours: and that the army being chiefly supplied with Scotch surgeons and French cooks arises truly from "*professional nationality*", and not from the prostitution of patronage. The educated youth of Scotland have an extraordinary and foolish repugnance to the trades which, in England, men of good position are willing to enter. The cheap, good, and universal education of Scotland spoils too many for trade, and forces an undue numerical proportion of the aspiring youth to seek their fortunes in foreign parts, or to enter the learned professions. The same causes are somewhat operative in Ireland, as is illustrated by the above table copied from the *Lancet.*

Portrait of J. Ranald Martin, Esq. An admirable likeness of this distinguished surgeon has been added to the series of medical portraits, published by Mr. T. Stone, of the Royal College of Surgeons. It has the merit of being a beautiful work of art, as well as a faithful portrait.

Dr. Charles D. Meigs, the eminent author of the Treatises on *Females and their Diseases*, and on *Obstetrics*, has resigned the post of Physician to the Lying-in department in the Pennsylvania Hospital. Dr. Joseph Carson has been elected in his stead.

APPOINTMENTS.

Banks, Dr. John, Physician to the Whitworth Hospital, and to the Lord-Lieutenant, elected King's Professor of the Practice of Medicine in Dublin University.

Bricheteau, M., appointed President of the Academy of Medicine of Paris for the ensuing year, on the 17th December.

Canton, Edwin, Esq., appointed Assistant-Surgeon to the Royal Westminster Ophthalmic Hospital.

Garrod, Dr. A. B., appointed Physician to University College Hospital, in the room of the late Dr. A. T. Thomson. Dr. Garrod had been already appointed to the chair of Materia Medica.

Lansdown, J. G., Esq., re-elected Surgeon to the Bristol General Hospital.

Markham, Dr. W. A., elected Physician to the Western General Dispensary, in the place of Dr. Day, appointed to the Chandos Professorship at St. Andrew's.

Mauley, Dr. John, elected Physician to the City Dispensary, in the room of Dr. Bentley, resigned.

Orfila, M., appointed Vice-President of the Academy of Medicine of Paris.

Skey, F. C., Esq., appointed to deliver the Hunterian Oration, on the 14th February, at the Royal College of Surgeons.

Topham, Dr. John, Physician to the South Staffordshire General Hospital, elected Consulting Physician to the Infirmary at Bridgnorth, Salop.

OBITUARY.

Abercrombie, John B. Esq., Surgeon, after a few days illness, lately.

Acheson, Guy, Esq., late Surgeon R.N., at Dublin, lately.

Bain, Dr., suddenly, at Nairn, N.B., lately.

Clanny, Dr. W. Reid, at Bishopwearmouth, on 10th January. He was Physician Extraordinary to H.R.H, the late Duke of Sussex, and upwards of fifty-five years Physician to the Bishopwearmouth Infirmary, and an eminent contributor, in various branches of knowledge, to most of the leading publications of the day.

Dawson, Charles, M.D., Surgeon to the 54th regiment, at Antigua, of yellow fever. on 13th December.

Dickson, Sir David J. H., M.D., Inspector of Hospitals and Fleets, at his residence, Lower Durnford Street, Stonehouse, Devon, aged 69, on 2nd January.

Elliott, Dr. T. C., 6th Bengal Light Cavalry, at Meerut, E.I., aged 54, on 14th November.

Foot, Jesse, Esq., late of Jamaica, at Ilfracombe, Devon, aged 70, on 5th January.

Giacomini, Professor, of Padua, lately.

Gillard, Richard, Esq., Surgeon, near Kingsbridge, Devon, lately.

Harbord, H. G. Esq., Surgeon, at Liverpool, lately.

Hunt, Francis, Esq., Surgeon, at his residence, Bath, aged 51, on 27th December.

Kidd, Dr., Inspector of Military Hospitals, of bronchitis, on 24th December.

Lewis, John, Esq., Surgeon, formerly of Mark Lane, on 25th December.

Stevenson, Dr. John, of Craigmore, Bute, at Hamilton, N.B., on 9th January.

Prus, Dr., late Sanitary Physician in Alexandria to the Academy of Medicine, at Paris, aged 56, lately.

Rouse, Robert, Esq., Surgeon, at his residence, Wallham Green, Fulham, on 25th January. He was found dead in his bed.

BOOKS RECEIVED.

Brinton, Contributions to the Physiology of the Alimentary Canal. London: 1849. Davey, Contributions to Medical Pathology. London: 1850. Easton, Introductory Lecture at Andersonian University in Glasgow. Glasgow: 1849. Hancock on the Operation for Strangulated Hernia. London: 1850. Jacob on Inflammation of the Eye. Dublin: 1850. Locke and Sydenham: a Review. Edinburgh: 1849. Medical Directory for 1850: London: 1850. Murphy on Chloroform in Midwifery. London: 1850. Rees on Diseases of the Kidney. London: 1850. Report of Pathological Society for 1848-9. London: 1849. Wood (Dr. A.), Rational Medicine. Edinburgh: 1849.

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ORIGINAL COMMUNICATIONS.

ON THE CAUSES, CONSEQUENCES, AND TREATMENT OF INFLAMMATION OF THE VEINS:

WITH EXPERIMENTS ILLUSTRATING THE EFFECTS OF THE MIXTURE OF FOREIGN MATTER WITH THE BLOOD.

By HENRY LEE, Esq., F.R.C.S.Eng., Assistant-Surgeon to King's College Hospital, etc.

PART I.

I. JOHN HUNTER expressed his belief that the blood has "the power of action within itself",[1] and that when it coagulates, it does so in consequence of an "impression" which it receives. Such an impression may be communicated by separation from the living vessels, or from "cessation of natural action"[2] in them. In certain circumstances also the living vessels themselves may be the means of exciting coagulation.[3] In others, the admixture of extraneous substances may either retard or hasten this operation.[4] The experiments made to determine the last point, Mr. Hunter informs us, "were rather imagined than fully carried out; and the subject rather broached and touched upon, than prosecuted".[5] In these experiments, different articles used in medicine were mixed with portions of blood taken from the body; and it was found that, in some cases, they altered both "the time," and "the firmness of the coagulation".[6] The circumstance of medicines being used in such experiments, conveys the idea, that, in instituting these researches, Hunter conceived that substances which would tend to produce such actions out of the body, might likewise produce some effect upon the blood in living animals. In endeavouring to prosecute the idea thus thrown out, I have been led to try the effect of different substances upon the blood, and to consider the changes which may be produced in that fluid, by the admixture of animal secretions. The experiments which will be hereafter detailed, not only confirm Mr. Hunter's notion, that foreign substances may induce actions in the blood

[1] HUNTER on the Blood. Ed. 1794, p. 21.
[2] P. 25. [3] P. 24. [4] P. 97. [5] P. 94. [6] P. 98.

when withdrawn from the body, but also show that some of these effects may be produced still more rapidly in the living vessels.

In these experiments, pus was used in preference to any other fluid; first, because the power of coagulating the blood which it was found to possess, enables its influence to be traced within the body; and secondly, because, being an animal secretion, the results obtained are likely to be analogous to those produced by the admixture of other secretions with the blood.

When pus is mixed with blood, fresh-drawn from a healthy animal, it is found in a marked manner to favour coagulation. This effect does not take place immediately, as in the case of the mixture of an acid with the blood; and I have reason to believe, that where the blood has lost its natural power of coagulation, no visible change is produced in it by the addition of pus. It appears, therefore, that this effect depends rather upon a vital than a chemical influence. In some cases, the coagulation takes place in less than two minutes; in others, after a longer period; but in all the experiments made, the influence of pus, when added to blood, in promoting its coagulation, was sufficiently evident. Putrid pus was found to act more rapidly than healthy pus (Exp. I, *b*), but the admixture of water was found to retard the operation; the result, in this respect, differing in some degree from the conclusion drawn from a similar experiment performed by Hunter.[1] The causes which usually favour coagulation out of the body, are rest, and separation of the blood into small quantities. These conditions are, in some degree, brought into play during the circulation of the blood through the capillaries; and when the influence of the admixture of pus with the blood is not sufficient to produce coagulation at once, we should naturally expect the effect to be more readily induced, where these two additional causes concur in favouring such an action. When the pus introduced is in any quantity, the coagulation of the blood is at once determined, and the entrance of pus into the circulation thereby prevented. The experiments VI, VII, and VIII, appear to furnish evidence of the correctness of this opinion, and to show that the result may be produced more quickly in the vessels than elsewhere. In these cases, so sudden was the effect, that the mixture of blood and pus coagulated before it could traverse the jugular vein, as indicated by the induration and cord-like feeling of the vessel.

In Experiment VIII, the obstruction formed was sufficient to resist even firm pressure, and in a great measure, if not altogether, to prevent the pus injected from finding its way along the vein. The coagulum was felt in the vessel during the operation, and was there found after death. One effect of the coagulation of the blood thus immediately produced, is necessarily to retain the vitiated blood in the part, and to prevent its being carried in the course of the circulation. This intention may be interfered with, either by accident or design. The coagulum, as in Experiment VI, may be broken up during the process of its formation, or after it has formed, and the parts of which it was composed carried forward with the circulating blood. In such a case, the vein in which the coagulum first formed, is found in its natural condition (except at the part where it may have been mechanically injured),

[1] Op. cit. p. 98.

and dark patches of congestion may be found in distant systems of capillaries. If the coagulum be allowed to remain, the vein in which it is formed soon becomes thickened; but, as the experiments cited prove, *this thickening is the effect and not the cause of the coagulum of blood lodged in the vessel.*

II. When blood coagulates in a serous cavity, a thin pellicle forms upon its surface, and, becoming thickened by deposition from the fibrin of the blood, forms a cyst, which completely circumscribes the effusion. This point has not probably received the attention which it deserves; and as it is believed to be of primary importance in the investigation of the present subject, a short space will be devoted to the purpose of fully establishing it, and tracing its connexion with other and subsequent changes. Every layer of lymph observed upon dissection, has perhaps too generally been considered as the result of inflammation; and hence there has arisen a confusion in the terms employed. That lymph may be derived from the blood directly, and deposited in the form of a membrane, without being secreted by any vessel, has been fully shown by a paper in the *Medico-Chirurgical Transactions.*[1] Such layers of lymph assume so much the appearance of others, derived by secretion from inflamed capillaries, that they have been described as identical. But the mode of their formation in the two instances is altogether different. In the one case, the process is a local one, confined to the blood itself, and subsequently to the membrane with which it happens to be in contact. In the other case, it is an effort of the constitution, accompanied by constitutional symptoms. The former of these processes was clearly described by Hunter. In describing the process of union by the first intention, "Coagulation", he says, "I imagine to proceed upon exactly the same principle as the union by the first intention. It is particle uniting with particle by the attraction of cohesion, which, in the blood, forms a solid; and it is this coagulum uniting to the surrounding parts which forms the union by the first intention: for union by the first intention is no more than the living parts when separated, whether naturally, or by art, forming a reciprocal attraction of cohesion with the intermediate coagulum, which immediately admits of mutual intercourse, and, as it were, one interest."[2] "When the blood has coagulated, so as to adhere to both surfaces and to keep them together, it may be said that union has begun."[3] "The uniting medium becomes immediately a part of ourselves, and the parts not being offended at it, no irritation is produced." "If the quantity of blood extravasated be large, the whole will not become vascular, but the surface only, which is in contact with the surrounding parts."[4] The process thus described in general terms may take place in serous cavities. In the third plate at the end of Mr. Hunter's work, is represented a coagulum of blood adhering to the *tunica vaginalis.* "The adhesion was firm, though it admitted of a separation at one end; when separated, fibres were seen running between it and the testis."

It might seem unnecessary to dwell upon this process further, had not some of the highest authorities in surgery, both here and on the continent, described it as identical with adhesive inflammation. Thus

[1] Vol. x, p. 45-82. [2] Op. cit. p. 26. [3] P. 200. [4] P. 205.

Bichat[1] says, "The cicatrization of wounds in veins after bleeding is a result of inflammation." Now, it is submitted, that when the blood coagulates, either in serous cavities or in veins, the process of union is not usually one of inflammation, or one in which the powers of the constitution are called into increased activity. It is true, that in both cases, inflammation may take place, and lymph, as the result of such inflammation, may be secreted; but this is only when, to use Mr. Hunter's language, the "primary intention" has not been fulfilled.[2]

When a membranous layer of lymph is deposited from effused blood, it adheres with some firmness to the surface with which it is in contact; but, as there is at first no vascular connexion established between them, it may be separated, leaving the part to which it adhered in its natural condition. Lymph derived from adhesive inflammation, on the other hand, when separated, leaves the surface upon which it was formed rough and uneven. Coagulated fibrin, when recently deposited, may thus be distinguished from effused lymph. The changes which blood undergoes when effused in serous cavities, may likewise take place when it is detained in injured or exposed veins. The coagulation of the blood in such cases (Experiments VII and VIII) serves as a bond of union between the sides of the veins (which may be either temporary or permanent), so as to prevent the entrance of any foreign matter into the circulation. When the blood thus coagulates in veins, changes may be produced analogous to those mentioned as occurring in serous cavities. If the quantity of blood be large, a thin pellicle is at first formed upon its surface (see Preparations 1523-25 and 1525-64, in the Museum of Guy's Hospital). This membrane becomes thickened and adheres to the internal surface of the vein (see plate No. 13, Cooper and Travers' *Surgical Essays*, Part I, and Prep. No. 1736, in the Pathological Museum of the College of Surgeons). It then becomes vascular, and finally so firmly united to a part of the circumference of the vessel as to be inseparable from it, without lacerating its lining membrane.

If the wounded vessel be small, or if the animal be strong and robust, the whole of the blood in the vein may at once coagulate and become united to its sides. The usual economy of nature, however, is here exercised, with a precision proportionate to the strength of the patient. A simple wound in a vein, in healing by the first intention, will not obstruct the circulation through the vessel under ordinary circumstances. A coagulum will form, sufficient to unite together the divided edges, and the circulation of blood through the vessel will be uninterrupted; but if the wound does not readily heal, coagula may form, which encroach more or less upon the cavity of the vein. There are then three ways in which a coagulum may obstruct the circulation through a vein. 1. By the outer layer of the coagulum forming a membrane, which contains the more fluid parts of the blood. 2. By the whole of the blood contained in the vessel forming a solid coagulum. 3. By a coagulum adhering to the injured side only of the vessel.

In whichever of these ways the process of repair is commenced, it

[1] Anatomie Générale, vol. ii, p. 423.

[2] In speaking of the two principles, I shall use the term by "first intention", to designate that the fibrin is derived from coagulated blood; and restrict the term "adhesive inflammation" to indicate the effusion of lymph from inflamed vessels.

may be interfered with, and the union dissolved. This is practically known to farriers; who, when they want to bleed a second time from the same orifice, break down the "union by the first intention" by a blow upon the vein. During the time that the parts are united only by the fibrin from the blood, any violence must tend to produce the same effect. If the constitution is good, and the coagulating power of the blood unimpaired, the union may be frequently interrupted, and yet be as frequently re-established in the same way. When from any local cause, or from any constitutional peculiarity, the union by the first intention fails at the seat of the injury, it may yet be attempted at some distance up the vein; and then we have coagula formed at different distances along the vessel. If these coagula fill the vein, are firm, and remain undisturbed by violence, the union may be complete, and the vessel sealed at those parts, even although the original wound should suppurate. But it sometimes happens, that the same peculiarity of constitution, or the same local cause, which prevented the union at the original wound, may prevent complete union by the first intention at any other point of the vein; and then its canal is open to any secretion that may be introduced into it. Foreign matter may thus find its way along a vein; but still there is a provision against its being carried the round of the circulation. It has been already shown that the blood, when in a natural condition, has a tendency to coagulate around pus, and, probably, many other fluids, even out of the body (Experiments I, V), and that this property is exercised in a still more remarkable manner in the living vessels (see Experiments VII, VIII). Foreign matter, even after it has got into the veins, may then, by the same means, be prevented from proceeding farther towards the centre of circulation. The process that takes place under such circumstances, is strictly analogous to union by the first intention. The blood may coagulate and adhere to the sides of any part of the vascular system. The union thus formed may be permanent, or the coagulum may be again broken up and carried with the blood in the course of the circulation, as shown in Experiment VI. When this occurs, as is shown in the same experiment, other changes supervene in remote parts of the body. This tendency to coagulate around the foreign matter once impressed upon the blood, cannot be destroyed by the coagulum being mechanically broken up, as indeed is proved by the fact already mentioned, that after one attempt at union in a vein (in consequence of the introduction of foreign matter) has failed, another attempt is made immediately farther up the vessel. Under these last circumstances, we may find a vein partially obliterated at different points, leaving intervals where lymph or pus are secreted. If the purulent matter introduced is allowed to remain a short time only in the vein, no inflammation is produced (Experiment VI). But when any irritating fluid is detained there in consequence of the blood coagulating around it, adhesive ulcerative, or suppurative inflammation, will be excited (Experiments VII and VIII).

The slowness with which veins inflame when cut, tied, or bruised, has been made a subject of comment by different authors; and Mr. Travers, in particular, has endeavoured to reconcile "the infrequency of its occurrence" with the rapid and violent character of the inflammation in certain cases. Although, under ordinary circumstances, a wounded vein

does not inflame, yet the annexed experiments show, that pus introduced into its cavity will produce inflammation, in which the system will sympathize. Other fluids besides pus will no doubt produce similar effects; but those of pus are here particularly noticed, as affording a good illustration of the series of changes produced by the introduction of foreign matter into the blood.

What the symptoms are which characterize the presence of pus, as distinguished from other secretions in the blood, it would probably be difficult to determine in cases as they occur in practice. The examination of the blood in these instances affords no very satisfactory information; for the characters of pus, when the blood has once coagulated round it, are so altered, that I know of no means by which a small quantity can be recognized, when it has once entered the circulation. The conclusions drawn from the different facts now stated are,—first, that inflammation of a vein, or phlebitis, is no essential part of the primary affection which precedes constitutional symptoms, even when morbid matter has found its way into the circulation through a vein. Secondly, that when inflammation of a vein does occur, in some instances at least, it is not the cause, but the consequence of the introduction of diseased or foreign matter into the blood. Thirdly, that although veins are with difficulty inflamed by any mechanical injury, they are susceptible of rapid inflammation, accompanied with constitutional disorder, whenever any irritating fluids are introduced into their cavities.

III. When the principal veins in a part become obstructed, it is natural to suppose that changes should be produced in the smaller veins which supply them. These changes may be expected in a more marked degree, when the obstruction depends upon coagulation of the blood, than when it arises from other causes, inasmuch as the coagulum usually extends to several veins at the same time.

In the experiments that have been made upon animals, it has been a matter of surprise that, while extreme pain was evinced upon the injection of irritating fluids into the veins, comparatively little or no suffering was produced, when similar experiments were performed upon the arteries. The foreign matter introduced in these cases would probably have the effect of coagulating the blood, as in the instances already mentioned. If this occurred in an artery, the supply of blood below the obstruction would be diminished; but if in a vein, the return of blood would be prevented: in the latter case, the continued influx of blood to the part would necessarily distend the capillaries.

In M. Cruveilhier's[1] experiment, of injecting ink into the veins of dogs, he found, that in thirty-six hours the legs swelled, and a number of bloody patches *(foyers apoplectiques)* were found in the substance of the muscles and the cellular tissues of the limb. The large veins were distended with adherent coagula of blood, and the smaller veins around the livid patches were also filled with coagulated blood. If the animal were allowed to live, the congested spots suppurated. The appearances thus produced in the muscles and cellular tissue of the limb were evidently not those of inflammatory action propagated along the coats of the veins, for the affection in the capillaries was circumscribed, and ter-

[1] CRUVEILHIER'S Path. Liv. XI.

minated in many places abruptly, leaving the veins in the immediate neighbourhood perfectly healthy; still less could the appearance produced depend upon the injected fluid finding its way through the veins (contrary to the course of the circulation) to the capillary system; nor, lastly, could it depend upon the ink finding its way into the general circulation, and producing its effects in its course a second time through the limb; for, not to mention that the capillaries of the lungs and other parts would be equally liable to be affected, one essential condition of the success of the experiment is mentioned to have been, that the fluid injected should *not* find its way along the vein in the usual course of the blood. We therefore conclude, that it was the coagulation of the blood in the large veins which caused the congestion of the capillaries, those veins remaining unaffected which could discharge their contents by some collateral channel. In cases of phlegmasia dolens after child-birth, the same principle can in some instances be clearly traced; thus, in a dissection performed by Mr. Lawrence[1] it is mentioned, that the external and common iliac veins were filled with a substance like the laminated coagulum of an aneurism. "The tube was completely obstructed by this matter, adhering as firmly as the coagulum does in any part of an old aneurismal sac. In its centre was a cavity containing about a teaspoonful of thick fluid of the consistence of pus, of a light brownish red tint, and pultaceous appearance." The femoral vein was in this case also filled with a coagulum; but, as is observed in the account of the dissection, the red colour of that vein might have been caused by the clot everywhere in contact with it, and therefore cannot be deemed a proof of inflammation.

Mr. Guthrie[2] has published a case of inflammation of the veins after amputation, resembling phlegmasia dolens, in which the veins of the opposite limb, even down to the foot, had become affected. In this case, on the fourteenth and fifteenth days after amputation of the right thigh, the left leg began to swell, and became intolerably painful. "The swelling was elastic, yielding to the pressure of the finger, but not in any manner like an œdematous limb. *Upon a careful examination, no pain was felt in the course of the iliac vessels upon that side;* the stump looked well, save at one small point, corresponding to the termination of the femoral vein." On examination after death, the termination of the vein on the surface of the stump *was open*, and in a sloughy condition. At the left groin, the iliac vein was greatly distended with pus. Sir Henry Halford[3] has also mentioned three cases of what he has termed phlegmasia dolens, occurring in the male, in one of which the iliac vein was found obliterated after death. In this case, the patient had suffered, for several years before his death, from swelling of the left leg and thigh. In the interior of the obliterated vessel there is a coagulum, which has lost its colour, and become firm and completely adherent to the inner surface of the vein. (See Prep. No. 1732, Path. Mus. Coll. of Surgeons.) The rapid swelling and general pain of the limb in such cases, indicate a sudden obstruction to the circulation, while the absence of tenderness in the course of the vessels during the first stages

[1] Medico-Chirurgical Transactions, vol. xii.
[2] Medical and Physical Journal, vol. lvi. [3] London Medical Gazette.

of the disease, tends to show that the contents of the vessels, and not the vessels themselves, are primarily interested in its production.

The foregoing remarks have appeared necessary, in order to explain a circumstance mentioned by Hunter, upon which considerable stress has been laid by subsequent writers. Mr. Hunter observed that the whole side of the head in horses that had been bled would frequently become swollen and inflamed. The explanation of this fact appears very simple, when viewed in relation to the general principle illustrated by the above cases. The horse has only one jugular vein upon each side; and, although in the usual operation of bleeding, its channel is not obstructed, yet if the wound do not readily heal, it contents will coagulate. The circulation will then be obstructed in all the distant branches, and the blood, if long retained, will coagulate in them also. It will then part with its serum, and give rise to all the symptoms of inflammation in the distant vessels; a pulpy elastic swelling, accompanied with great pain, will then be the principal symptom, while the turgescence on the surface will be less than where the superficial veins have been mechanically compressed. It will, however, very frequently happen, that a vein in a part may be felt distended without any symptom of inflammation being present; and, in other cases, the pain and swelling will appear and disappear too rapidly to allow the idea that they depend upon inflammation of the coats of the vein. It has occurred to the author, to feel a vein in the arm and hand distended during life, and after death, to find it empty, and its coats of their natural colour and thickness; in such a case, the coagulum gives way, becomes broken up, and mixed with the circulating blood.

IV. When pus, or other diseased fluid, is confined to the cavity of a vein, the constitutional symptoms produced are comparatively mild, as long as it remains limited and circumscribed by adherent coagula; that is to say, so as to be excluded from the rest of the circulating system. (Compare the frequency of the respiration in Experiments VI and VII.) But the tendency of a clot of blood is to contract; and a time comes when the coagulum is either broken up, or shrinks, so that if no further changes are produced, the current of blood through the vein is re-established.[1] Meanwhile, however, the coats of the veins have undergone changes corresponding to the degree of irritation produced by the contained fluids, and the intention or result to which the inflammation tends. If the coagula have long remained, the coats of the veins are always found thickened, sometimes to three or four times their natural thickness, and sometimes so as to completely obliterate the vessels. The contents of the veins are occasionally found to consist, as far as can be seen, simply of coagulated blood; at other times, they are found filled with soft yellowish coagula, deprived, more or less perfectly, of their colouring matter; more rarely, the cavity of a vein will be found filled with dark-coloured membranous layers, leaving still a channel through the vessel; and occasionally it will be found completely obstructed by "dense, dark-coloured, bluish membranes."

[1] This remark I have had opportunities of verifying in cases, where needles have been introduced under varicose veins in the lower extremities, and allowed to remain, with a ligature around them, for ten days or a fortnight. The circulation through the vein will in such cases be obstructed; but, in a year or two, will be found to have become completely re-established.

As the coagulum contracts in a vein, if the intention is to obliterate the vessel, its sides are gradually approximated. In the smaller veins, and in the divided extremities of large veins, the sides are soon completely drawn together. But the latter, if not wounded, may for a long time (see Prep. 1732, Path. Mus., Coll. of Surg.) retain coagulated blood in their contracted, but not completely closed, cavities. In both cases, the coagula which close the veins are liable to be displaced by accident, or to have their adhesions loosened by the changes which they undergo. The position of a vein, and the structure of the organ through which it passes, may be unfavourable to its healthy reparation. The process of repair goes on frequently during a continued flow of blood over the part, and sometimes during the constant action of the muscles in the neighbourhood: at other times, an injured vein will be situated immediately in the bend of a joint, and will be subject to be continually bent and extended with the motions of the limb. In the structure of the bones, the veins lie in unyielding channels, and are consequently deprived of the assistance derived from the approximation of their sides, as in soft parts, during the process of reparation. As the coagula contract in such a case, there is danger lest the union by the first intention should be disturbed, and that the cavities of the injured veins should be left exposed. Again, in the uncontracted uterus after child-birth, the veins which open upon the placental surface, pass through the firm texture of the organ, and are incapable of contraction independently of the muscular structure which surrounds them. The coagula which close their extremities secure them against the entrance of any foreign matter; but should these coagula be removed before the vessels are otherwise protected, their open mouths are exposed to any secretions that the uterus may happen to contain. In these cases, if a coagulum is not firmly formed, or if it is displaced by violence, it may be broken up, and portions of it mixed with the fluid blood. Subsequent coagula may form in the veins and offer fresh obstructions to the admission of any foreign matter, but these may, as in the first instance, be disturbed, and carried, together with any admixture of the secretions of the part, in the course of the circulation. The period at which the union of a coagulum in a vein is dissolved, is sometimes marked with great precision. In a case recorded by Dr. Davis,[1] a patient was convalescent from an attack of phlegmasia dolens, when death took place instantaneously, while the patient was in the act of changing the sitting for the recumbent posture; the left external iliac vein was thickened, and its internal tunic was studded in several places with deposits of adherent lymph. The portion most remarkable for this incrustation, as well as for other disease, was immediately beneath Poupart's ligament; the vein, although contracted, was *manifestly pervious*.

V. It has been shown in the previous sections, that secretions mixed with the blood will alter its properties, and influence the period of its coagulation: that when the blood is thus altered, it may pass through a vessel without leaving any trace of its passage; but that if it coagulates and remains in a vein, the coats of the vessel will then take on increased action. The exciting cause of the inflammation in such cases appears to be conveyed by means of the contents of the vessels to the

[1] Medico-Chirurgical Transactions, vol. xii.

vessels themselves. But, as in post-mortem examinations, the changes produced in the vessels are much more easily recognized than the alterations in their contents, the former have of late years almost exclusively occupied the attention of pathologists. The cases in which constitutional symptoms follow inflammation of the veins, will be found to divide themselves principally into three large classes. 1. Those in which one of the larger veins has been opened. 2. Those in which some portion of bone has been involved in the original lesion. 3. Those that occur after child-birth.

In each of these three classes of cases, a free communication will be found to exist between the injured part and the general circulation. The natural mode of sealing this communication, when it is no longer proper, is the coagulation of the blood in the veins of the injured part. When, from some constitutional affection, or from some local peculiarity of structure, this intention is not fulfilled, a ready passage remains open, through which the blood may become infected. In injecting fluids into the veins, it has frequently happened, that no great constitutional disturbance, and no signs of secondary inflammation, have been produced; but this is believed to have depended upon the coagula in the veins having prevented (as probably occurred in Experiments VII and VIII) the foreign matter from finding its way along the vessels. But if this obstruction be not offered, or be overcome, then the appearance of secondary inflammation, accompanied by corresponding constitutional symptoms, will be produced. If water be injected into the cancellous structure of bone, it will find its way out in drops through the apertures of the nutritious vessels. The ready communication which is thus shown to exist between the interior of bones and the veins, has been but too often exemplified by M. Cruveilhier's experiments of introducing mercury into their cancellous structure, and finding it subsequently in the vascular system. This fact assumes peculiar significance, when taken in conjunction with the very large proportion of cases, in which some portions of bone will be found to have been involved in the primary lesion, in those who have died of secondary inflammations. Of fifty-two consecutive cases, occurring in surgical hospital practice, of which I have preserved notes, in no less than forty-one was some portion of the osseous system implicated. Again, in the third class of cases, if the vena cava be injected after parturition, the injection will very speedily find its way into the uterus.[1] The ready communication which is thus shown to exist between the vascular system and the local affection, in each of the three large classes of cases which usually give rise to subsequent disease, would of itself afford at least a very remarkable coincidence. But more direct evidence presents itself of the way in which the system becomes contaminated in these affections: thus, after an operation for hæmorrhoidal tumours, an effusion of lymph and pus has been found in the hæmorrhoidal veins,[2] from thence the same appear-

[1] DANCE. Archives Générales de Méd. vol. xviii, p. 480, Dec. 1828.

[2] In cases where pus has been found in veins surrounded by coagula, its presence and detention there have been differently accounted for. M. Cruveilhier appears to have imagined that the loose coagula act as filters, through which the blood passes, while the pus is retained. (*Dict. de Med. et de Chir.* t. xii, p. 641.) The true explanation of the way in which coagula form round pus in the veins has already been given.

ances have been traced to the inferior mesenteric vein, and the severity of the secondary affection, indicated both by the symptoms and the post-mortem appearances, has fallen upon the liver. These circumstances all tend to point to the venous system as the means by which morbid matter in such instances is introduced: and the still more conclusive facts afforded in the production of secondary disease, by injecting fluids into the veins,[1] allow scarcely a doubt to remain upon the mind, that the unprotected veins are the channels, in a very large proportion of cases, through which the blood becomes infected.

VI. The cancellous structure of bone may be compared to the cellular tissue in soft parts. When inflamed, its intervals become filled up by effusion from the vessels, and an abscess may be as accurately circumscribed in the hard as in the soft structures of the body. In a healthy constitution, the adhesive inflammation will always precede the suppurative; but where the inflammation is not circumscribed by adhesion, the secretions may permeate from cell to cell in unadhering parts. In soft structures, a remedy is at hand for allowing the escape of the secreted fluid, by a free division of the parts; but in bone, where the same thing takes place, the hard unyielding sides offer an effectual obstruction to the escape of any effused fluid. The cells of the bone then become infiltrated, and the same want of power which is manifested in the deficient adhesion in the bone, will probably be indicated by want of union in the veins. There is nothing, then, to prevent any secretion permeating the cancellous structure from finding its way into the circulation.

M. Cruveilhier assures us, that a single drop of mercury introduced into the cancellous structure of living bone, may subsequently be detected in the capillaries of the lung, where it becomes the centre of one or more patches of livid congestion. This experiment appears to afford a perfect illustration of the way in which diseased secretion may be conveyed into the circulation, when the natural processes of repair in bone are abortive. These processes, as we have seen, are,—first, union by the first intention; secondly, adhesive inflammation. In soft parts, as the fibrin, which forms the bond of union in the first of these, is absorbed, the divided veins collapse, and thus continue closed; but in bony structures, where the injured vessels are held open, as the fibrin which at first closed their extremities becomes removed, their channels may be left as much open to the diseased secretions of the part, as to the globule of mercury in M. Cruveilhier's experiment.

The low degree of organization in bone, and the comparative slowness with which actions are there carried on, render it, in a peculiar degree, liable to interruptions in the process of repair; especially when, as not unfrequently happens, there is reason to believe that the vitality of some portion of the bone has been threatened. The offensive smell of the bone, as well as the appearance of its cancellous structure infiltrated with puriform matter, will frequently show in such cases, that the processes above-named have not followed their natural course.

VII. As a necessary deduction from the accompanying experiments, and those of M. Cruveilhier, alluded to in the previous section, we

[1] See M. Gaspard's experiments.

arrive at the conclusion, that a vitiated condition of the blood may give rise to inflammation of the veins in different parts of the body. The circumstances which occasionally attend reparation of the uterine veins after child-birth, will be found to lead to the same inference; and the same general proposition will derive fresh support from the consideration of this class of cases.

The veins which terminate upon the placental surface of the uterus are necessarily open when this organ is distended, and become more or less perfectly closed when it contracts. In cases when the contraction is incomplete, innumerable open-mouthed orifices are left bathed in secretions, which are often offensive and undergoing decomposition; the natural protection to the vessels then, is the coagulation of the blood in them. If examined, the uterine veins will be found filled with coagula for some distance. But in cases where this power is impaired, all the uterine veins and arteries recently separated from the placenta may be found bathed in the secretions of the part, under circumstances most favourable for their absorption. The passage of diseased secretions through the vessels cannot always be traced in this, any more than in the other forms of the disease. Many of the substances introduced artificially into the circulation by M. Gaspard, produced no action upon the coats of the veins through which they passed, and yet the general symptoms were precisely similar to those originating from genuine phlebitis. In accordance with this, it may be observed that the uterine veins are often found perfectly healthy when the spermatic, or renal, or still more distant veins are thoroughly disorganized. In either case, the healthy condition of the veins near the original lesion forbids the idea of inflammation having been propagated along the coats of the vessels, while all analogy appears in favour of the disease being transmitted through their contents.

In a certain number of cases no lesion will be found in any of the veins of the body, but the uterine veins will be found to contain some unnatural fluid; at other times coagula of blood, which have lost their elasticity, gritty to the feel, and greyish or light brown in appearance, will be found filling the veins or leaving intervals in them, where lymph or pus may be recognized. It matters little whether the unnatural fluids, thus found in the uterine vessels, have been absorbed from the cavity of the uterus, or are the product of venous inflammation. The effect upon the blood in either case would be the same.

When obstructions form in the spermatic veins, they are not indicated by any external symptoms; but when the veins opening into the internal iliac are similarly affected, the coagula are liable to extend into its cavity, and even beyond it to the external and common iliac vessels. The free return of the blood from the inferior extremity, will then be prevented. The effects of this have already been described (sec. III.)

The connection of this form of disease with affections in distant parts of the body, has been noticed by several eminent writers. Legallois has expressed his conviction, that phlegmasia dolens, puerperal fever, and many other puerperal ailments, are solely dependent upon the absorption of pus from the uterine surface. This opinion appears to have been formed upon too hasty a generalization, inasmuch as other fluids besides pus, as evinced by some of the annexed experiments, may pro-

duce similar effects upon the blood. But that pus, when absorbed, will determine the coagulation of the blood in the iliac as well as in other veins, must be allowed; and that the symptoms of obstructed venous circulation arising from this cause, will exactly resemble those of phlegmasia dolens, will scarcely be denied.

"Besides depositions of pus in certain portions of the frame," observes Dr. Ferguson, "I have seen two other states of the limb, which are connected with and traceable to the cause originating puerperal fever. In one of these the malady looks like erysipelas . . . .; in the other, the leg is attacked with a disease so exactly resembling phlegmasia dolens, as to leave no doubt in my mind that they are one and the same malady. In this, as in other forms of the disease, there may be a tendency to gangrene of the skin."

The period of the occurrence of what has been described under the name of uterine phlebitis is marked with much precision, and the affection of the system is often general and sudden. It may be stated as the result of all the observations hitherto made, that it occurs most frequently from the 10th to the 20th day after parturition.[1] If the inflammation in such cases were propagated along the vessel only, it would be difficult to account for such an apparently capricious selection of time for its development. This difficulty, however, disappears when the period is observed to be so strictly in accordance with the time at which the same symptoms occur after other local complaints, and to be, moreover, the time at which the coagula formed in the veins, may naturally be expected to shrink.

It has been observed, that inflammation after child-birth usually attacks the spermatic veins alone, and for the most part the one only on that side of the uterus to which the placenta has been attached. The hypogastric veins are comparatively rarely affected. The appearances observed upon dissection in the spermatic vein, usually terminate abruptly at its opening into the vena cava on the right side, or into the renal on the left. This fact is in perfect accordance with that observed by Mr. Arnott, that the coagulum in veins extends usually only to the nearest collateral branch; the explanation appears to be the same in both cases, as illustrated by Experiment VI. If the coagulating blood be left undisturbed, it will form adhesions to the sides of the vessel and produce increased action in its coats; but if mechanically disturbed, it will be carried forward before the process of coagulation is completed, and leave the vein in its natural condition. When any portion of a vein is obstructed, the blood is kept at rest between the obstruction and the next collateral branch; and, if disposed to coagulate, there is nothing to interfere with such an action. But the case is different, as soon as one vein opens into another. A fresh current of blood is then continually sweeping the orifice of the obstructed vessel; and, even although the blood at this point should have a tendency to coagulate, it is carried on in the course of the circulation, before it can adhere to the sides of the unobstructed vein. The sudden termination of the diseased appearances in these cases, affords an additional proof that the blood is the medium by means of which this affection is transmitted. It is true, in

[1] Dr. Lee. Medico-Chirurgical Transactions.

such instances the diseased fluid cannot be always, or even generally, traced in the veins, and very many cases occur where a retained and putrid placenta, or decomposing coagula, remain in contact with the mouths of the uterine veins, without any of the symptoms of local phlebitis being produced; but this is only in accordance with what is observed in cases where purulent or other fluids have been directly injected into the blood. The examination of the blood, or of the vessels, in such cases, will by no means invariably indicate the presence of foreign matter after it has once become thoroughly mixed with the blood, nor will inflammation of the vein through which the fluid passes, be by any means invariably produced.

When a foreign substance is introduced into an artery, any immediate effects upon the blood may naturally be looked for in the system of capillaries which it supplies. If the blood then coagulates, local symptoms alone, will, in the first instance, be produced, and the constitution will remain unaffected. M. Magendie,[1] indeed, asserts that fluids injected into the arteries of animals, return quickly through the corresponding veins, and that this takes place even more rapidly in the living than in the dead body. If this were universally true, it would matter little whether foreign matter were introduced into the arterial or venous system. The effect upon the constitution would be the same in either case. But if, as is now maintained, extraneous matter introduced into the blood may, under certain circumstances, produce its coagulation, then the effects will be confined, more or less completely, to the first system of capillaries which the blood meets with in the natural course of its circulation, and the constitution will be affected only in consequence of the changes which then take place. M. Gaspard has shown that greasy fluids, and such as contain sediments, do not find their way readily from the small arteries into the veins. They become entangled in the intermediate capillaries, and there produce, first patches of local congestion, and subsequently serous effusion and abscesses. Some clear fluids, on the other hand, such as solutions of tartar emetic, of opium, and of nux vomica, when introduced into an artery, pass readily in the course of the circulation, and produce their full effect upon the constitution; and in such cases no irritation is manifested in the capillaries through which they pass. The first of these poisons produces vomiting and purging, the second stupor, and the third tetanic rigidity, exactly in the same manner as if they had been introduced into the stomach, or injected into a vein.

There are yet another class of substances differing in their effects from both of the former; and under this head are classed infusion of tobacco, solution of acetate of lead, putrid fluids, etc. These are distinguished from the first class above mentioned, as not offering in themselves any mechanical impediment to the circulation of the blood, and from the second, as not producing the same constitutional symptoms when injected into an artery as when thrown into a vein. M. Gaspard found that, when introduced into an artery, the infusion of tobacco neither produced vomiting nor stupor, the solution of acetate of lead did not act upon the intestines, and the putrid fluids did not produce the evacua-

[1] Précis Elémentaire de Physiologie, t. ii, p. 389.

tions usually observed after their introduction into the system by other means. All these substances, however, were found to produce violent local irritation in the parts to which the branches of the injected artery were distributed, and the constitutional symptoms were those produced in consequence of the local irritation, and not those which would arise directly from the action of those poisons upon the system.

In Experiment xx, seven or eight cubic inches of common air were gradually injected into the carotid artery of a dog, and half an hour afterwards an ounce of water, to which seventy drops of medicinal prussic acid had been added, was thrown into the same vessel; none of the peculiar effects of the poison followed this operation. At the expiration of another quarter of an hour, an ounce of a saturated solution of nux vomica was likewise injected, still without producing any constitutional symptoms. It is very remarkable in this experiment, that M. Gaspard[1] should have considered that the elasticity of the air contained in the vessels was sufficient to counteract the impetus of the blood, and thus to prevent the progress of the poison along the vessels, especially when we find him stating that, on a post-mortem examination, the smaller vessels appeared to have been *obstructed by very hard clots of blood.*

EXPERIMENTS.

I *(a)*. On the 25th of September, 1848, having procured four small vessels of equal sizes, I placed in the first some dilute sulphuric acid, in the second some offensive pus, and in the third some water. The fourth vessel was left empty. They were then all equally warmed, and some blood from the jugular vein of a healthy horse was received into each of them so as to fill them to the same level. They were now stirred with separate pieces of wood. At the expiration of two minutes (noted by a watch), the contents of the second vessel had become coagulated into one uniform mass. The contents of the first vessel (containing the acid) were thickened and of a dark brown colour; in the third and fourth cups the blood was of its natural fluidity, but darker coloured in the cup containing water than in the other. At the expiration of ten minutes, the blood contained in the fourth cup had begun to coagulate; the blood and water still remained fluid. At the expiration of a quarter of an hour, the blood had completely coagulated in the fourth cup, containing blood alone; and had very partially coagulated in the third cup containing the blood and water.

(b). Four vessels were taken, each capable of holding three fluid ounces. In the first was placed half an ounce of cold water, in the second half an ounce of dilute sulphuric acid, and in the third half a drachm of pus, which was quite fresh and sweet. All the vessels were then quickly filled with blood, from the jugular vein of a horse. The contents of each vessel were stirred. The blood and dilute sulphuric acid became thick, and changed in colour almost immediately, as in the first experiment, but did not coagulate. The pus and blood coagulated in six minutes, and the mass was firm in seven. The pure blood coagulated in twelve minutes and was firm in sixteen. The blood and water

[1] Journal de Physiologie, t. v, p. 328 and 336.

coagulated in about the same time, but took nineteen minutes to become firm.

The above and the following experiments were made at the suggestion of the author, in conjunction with Mr. T. W. Mayer,[1] veterinary surgeon.

II. An abscess was opened in the groin and a quantity of pus received into a gallipot; some blood from the divided vessels was also received into the same vessel; they were then stirred together, and in two minutes the mass coagulated. Some blood taken from the same patient in the same manner, but not mixed with pus, coagulated in eleven and a half minutes.

III. On the 20th of January, 1849, an inflamed and suppurating abscess was opened, and the blood and pus which flowed from it were mixed together. They coagulated in two minutes and twenty seconds. This experiment was repeated several times, with nearly similar results.

IV. In June 1849, a tense inflamed swelling was opened in the perinæum of a patient, who had for years laboured under a very obstinate stricture. A quantity of matter first escaped, and subsequently serum, mixed with shreds of lymph and small quantities of pus and blood, continued to flow for some time. Portions of this mixed fluid were received into separate vessels; they coagulated on an average in about two minutes.

V. Two ounces and six drachms of blood were taken from a healthy horse, and two drachms of pus were mixed with it. The mass coagulated in three minutes and three-quarters.

VI. A healthy male ass, three years old, was procured, and, with the assistance of Mr. Mayer, was made the subject of the following experiment, on the 23rd of September, 1848. Three drachms of pus were collected from an issue in the chest of a horse, which laboured under inflammation of the lungs. The pus thus obtained was quite pure and sweet, and having been warmed, was injected, by means of a syringe, into the left brachial vein of the ass. The animal lay quiet, till nearly the whole of the pus was injected; it then struggled, and a small quantity of the pus may have been lost. When the operation was completed, the sides of the vein were brought together with a pin, and the animal was allowed to get up. The vein above the opening could now be felt as a hard, unyielding cord, as high as it could be traced with the hand; but upon gentle pressure being made, so as to propel the blood in the course of the circulation, the hardness completely disappeared. The vein which, immediately after the operation, was hard and prominent, no longer presented anything remarkable to the touch. The animal now moved from side to side, as if inclined to lie down.

Two hours and a half after the operation, the pulse, which naturally was 36, had risen to 60; and the respiration from 12 per minute had increased to 26.

September 24th. Pulse 52; respiration 20; mouth hot; ears cold. In the evening the pulse became 48 and the respiration 16; he coughed occasionally.

25th. Pulse 48; respiration 12; some dulness of countenance, but

[1] The present mayor of Newcastle-under-Lyme.

he is lively and occasionally playful. The left fore-leg is swollen; the ears are very cold. In the afternoon he was killed, and the blood was allowed to flow from the body.

Post-mortem appearances. The wound in the left leg opened directly into the brachial vein, which was filled with lymph and a thin pus for a very short distance, both above and below the external opening; immediately above this, the vein was healthy, nor was there any appearance of disease in any of the other veins of the limb, nor in the veins leading to the heart. The glands in the axilla were swollen. The lungs were found studded irregularly in different parts, with circumscribed spots of livid congestion: these existed both upon the surface and in the substance of the lungs; they were generally about the size of a filbert, but in some places they occupied a single lobule, and were accurately circumscribed by its outline.

VII. On the 23rd of November, 1848, about an ounce of perfectly pure pus (previously warmed) was injected into the right jugular vein of an aged ass; the vein immediately became "corded", and the blood appeared to have coagulated in the vessel. The operation did not much excite the breathing; but the pulse, which naturally was 35 in the minute, rose to 60, and subsequently fell to 55.

24*th*. The animal dejected; appetite indifferent. The vein can be traced as a thickened cord as far as the sternum. Respiration 12 (the natural standard); pulse 50.

25*th*. The parts around the vein much infiltrated with serum: pulse 55; respiration 12.

26*th*. The wound in the neck began to suppurate, and an abscess subsequently formed in the course of the vein, about midway between the opening and the sternum. The general symptoms continued, with very slight variation, until the 4th of December, when the animal was destroyed.

Post-mortem appearances. The jugular vein was found to have become inflamed only in the course of the circulation, and to be obliterated a short distance below the external opening. The surrounding parts were greatly infiltrated with serum and lymph, and several abscesses had formed in the immediate neighbourhood. The lungs did not present any well-defined patches of congestion, as in the last mentioned experiment.

VIII. A healthy ass, six years old, was operated on upon the 16th of November, 1848. The respiration was naturally 14 in the minute, and the pulse 38. About two ounces of highly offensive pus, obtained from the frontal sinus of a horse, were injected into the left jugular vein; the pus had unintentionally been mixed with water previous to its being injected. The vein became full during the operation, as though the blood in it were in a semi-coagulated state. The pulse now became 60, and the respiration 20 in a minute; slight rigors occurred in two hours.

November 17*th*. The animal is tranquil; appetite good; pulse 48, small and wiry; respiration 16. In the evening he was rather more excited; the vein was becoming inflamed downwards towards the heart; pulse 60; respiration 20.

November 18*th*. The vein was more inflamed, and slight suppuration was visible at the orifice of the wound. Respiration 16; pulse 55. From

this period to the 23rd, the pulse continued from 55 to 60, and the respiration varied from 12 to 18.

November 26th. The swelling in the situation of the vein is rapidly subsiding; pulse 55; respiration 12.

The animal gradually recovered, and on the 26th of February, 1849, was made the subject of another experiment. The right jugular vein having been opened, two fluid ounces of pure healthy pus were injected, and propelled in the course of the circulation, by pressure upon the vein externally. The vein became tense during the operation, and sensibly resisted the attempts that were made to propel its contents towards the heart. *Even forcible pressure was not sufficient to overcome the resistance offered to the return of blood.* Soon after the operation, the animal had a rigor; the breathing became laborious, but not accelerated; pulse 57.

After the lapse of seven hours, the animal appeared dejected; he refused to eat or drink; the extremities were cold; breathing 16 in the minute; pulse 60, small and irregular.

February 27th. The vein can be felt thickened as far as the sternum. The general symptoms are the same as on the previous evening.

28th. There appears less constitutional irritation; pulse 60; respiration 14.

March 2nd. Appetite still indifferent; pulse 60; respiration 16.

From this date to the 7th, when the animal was destroyed, the general symptoms continued much the same, but the induration and swelling around the jugular vein, from the opening to the sternum, became greater.

Post-mortem appearances. The left jugular vein was found completely obliterated. The remains of a firm coagulum obstructed its canal for some distance below the opening which had been made into it, and terminated, below, in an elongated conical portion, which adhered to one side only of the vessel. On the right side, an abscess had formed in the course of the vein; and for two inches, thew hole of the parts were imbedded in a confused mass of pus and lymph, in which it was impossible to distinguish the structure of the vein. Both above and below this, for several inches, the vein was filled with coagula, which effectually obliterated it. These coagula extended for several inches in the course of the circulation; but beyond them, in both directions, the vessel was pervious. The lungs presented some slight spots of congestion, but not of the same characteristic kind observed in Experiment VI. The other organs were healthy.

IX.[1] Two drachms of pus, somewhat fetid, derived from a large common ulcer, and diluted with a little water, were injected into the jugular vein of a middling-sized dog. The animal immediately made several convulsive efforts to swallow, and soon became faint. It showed indications of pain, and vomited more than six times in the course of the day. At the expiration of an hour, it appeared slightly relieved by an evacuation, and by passing turbid urine. In the evening, it was very ill; it lay upon its side with its legs extended; had a very feeble pulse and scarcely perceptible respiration. Ten hours after the experiment, it

[1] This, and the following experiments, are among those recorded by M. Gaspard, referred to in the foregoing dissertation.

passed black, liquid, and extremely offensive motions; these were accompanied by immediate relief. The animal regained its appetite, eat and drank freely, and went to sleep. The day following, it appeared nearly well. On the third day, three drachms of the same pus were injected into the opposite vein; after the lapse of a certain time, there occurred, as in the first instance, faintness, vomiting, and frequent desire to pass urine; twelve hours after the injection, frequent liquid, white, and very fetid motions were passed, and it died at the expiration of twenty-four hours. On opening the body, no alteration was found either in the intestines or other organs.

X. The last experiment was repeated on a greyhound with the same results: faintness, fever, vomiting, and repeated evacuations succeeded each other, with recovery after the first experiment, but not after the second. On opening the body, no lesion was observed, except that the inferior lobes of the lungs were gorged and almost hepatized.

XI. Three drachms of recent pus, derived from the same patient as in the last experiments, were injected into the jugular vein of a small emaciated unhealthy dog. After the expiration of three minutes, there was an abundant evacuation of urine, followed by repeated vomiting, and repeated ineffectual efforts to pass fæces. For nearly a quarter of an hour, there was a kind of emprosthotonos, rigidity of the limbs, and a death-like condition. Subsequently, fresh vomiting ensued, with very fetid liquid evacuations, which were followed by apparent relief; soon after, however, long continued tenesmus made its appearance, and terminated in death, five hours after the injection of the pus. On opening the body, the mucous membrane of the intestines was found red, swollen, and inflamed, especially in the colon and rectum.

XII. Half an ounce of pus, similar to that used in the preceding instances, but more putrid, in consequence of having been longer kept, was introduced into the veins of a middling sized dog. The animal, as in the other cases, was seized with vomiting, accompanied by violent straining. Subsequently, strongly marked nervous symptoms made their appearance. The eyes wandered; there was extreme sensibility, and involuntary convulsive twitching over the whole body, accompanied by faintness, hiccough, and short piteous cries. The walk was unsteady, staggering, and without apparent object. There was furious delirium, ardent thirst, dyspnœa, palpitation of the heart, etc. This state lasted for nearly two hours, and the animal died in frightful convulsions, without having experienced any critical evacuations, as in the former cases.

Post-mortem appearances. On opening the body, while still warm, the venous blood was found very firmly coagulated, not parting with any of its serum when left at rest; the left ventricle of the heart showed, on its external surface, some stains of the colour of lees of wine, formed by a kind of concrete pellicle, which disappeared only after long rubbing and maceration. The other organs appeared healthy.

XIII. Some beef was allowed to decompose in some dog's blood; half an ounce of the fluid resulting from the decomposition, was injected into the jugular vein of a little bitch. Immediately, the animal made several convulsive efforts to swallow, and soon became oppressed, uneasy, and faint. At the expiration of an hour, there was great prostration, accompanied by repeated gelatinous and bloody evacuations, and vomiting of

bilious matter. The strength became gradually less, and the animal died three hours after the injection.

Post-mortem appearances. The lungs were found inflamed in a very peculiar manner. They were gorged with blood, of a violet or black colour, and presented many petechial spots, like small ecchymoses. These spots existed also on the left ventricle of the heart, in the spleen, in the mesenteric glands, in the gall-bladder, and even in the subcutaneous cellular tissue. The peritoneum contained some spoonsful of a reddish serum; but the mucous membrane of the digestive organs was found to have been principally affected. In the stomach it was slightly inflamed; in the intestines, but especially in the duodenum and rectum, it was of a livid colour, presenting many black spots, and covered by a gelatinous and bloody secretion, resembling lees of wine. The tissues in these parts were slightly thickened.

XIV. The preceding experiment was repeated, by injecting into the jugular vein of a moderately large dog, an ounce of fluid, derived from the maceration of putrid beef in water. The animal very soon passed extremely offensive, liquid evacuations, with much urine. The breathing became quick and deep, the pulse small and quick. Repeated efforts were made to empty the bowels. There was great depression and want of strength. At the expiration of an hour, a kind of diarrhœa or dysentery made its appearance. Liquid, bloody, and fetid evacuations, continued for an hour and a half, when the animal died.

Post-mortem appearances. Livid, brown, and black patches were found scattered over the lungs. The intestinal canal was filled with a bloody mucous secretion, resembling the matter that had been voided; its mucous membrane was of a livid colour, as in the preceding case.

XV. Two ounces and a half of thick fetid fluid, derived from the maceration of cabbage leaves in an equal quantity of water, for two days, at a temperature of 77 Fah., were injected into the right jugular vein of a moderate sized dog. During the operation, the animal made several efforts to swallow, and soon became faint, and vomited several times. Some hours afterwards, there was great uneasiness and oppression, with recurrence of the vomiting, and continued faintness during the day. After nine hours, a most copious and very fetid evacuation took place. The discharge was as black as soot, and composed of mucus, with a little fæcal matter, and a large quantity of what appeared to be corrupted blood. Some time afterwards, there was a second evacuation of bloody mucus, exactly resembling the first. On the following day, there was much loss of strength: the animal lay upon its side, or staggered as it walked. There was great and insatiable thirst, with a small feverish pulse. But the most remarkable symptom was the occurrence, at intervals, of palpitation of the heart, accompanied by extraordinary force and sound, resembling that produced by long continued hypertrophy of that organ, in consequence of aneurism[1] of one of the large arteries. On the third and

[1] I once observed a similar condition in a young woman in St. George's Hospital. Each pulsation of the heart could be heard with great distinctness at a distance of two or three yards from the patient; during the paroxysms, there was the greatest difficulty of breathing; the countenance became anxious and livid, and a distinct thrill was communicated to all the arteries. After death, the countenance and upper part of the body were found livid from venous congestion. The lungs did not

fourth days, the animal was better, but there were still great thirst, fever, and occasional rejection of fluids from the stomach. On the fifth day, the symptoms became aggravated; there was extreme weakness, a tottering gait, excessive thirst, the eyes red and filled with gum; the nostrils were stuffed, swollen, and obstructed with mucus; and the lining membrane of the mouth was tumid, and of a violet red colour. In the middle of the day, there was a liquid greyish white evacuation, resembling pus in its odour, consistence, and appearance, mixed with some clots of putrified blood. Death occurred during the following night.

Post-mortem appearances. The mucous membrane of the eyes, nose, and mouth, was red or violet, and covered by a very abundant thick mucus. The lungs were of a dark colour, with some black patches, but still crepitant. The left ventricle of the heart presented several brown stains, resembling ecchymoses, which penetrated into its tissue. Its internal surface was of the colour of lees of wine, offering a singular contrast to that of the right side, which, however, contained a hard fibrinous concretion, two drachms and a half in weight, of a light yellow colour, resembling grease. This was of the same consistence throughout, everywhere free, with the exception of a portion of the size of a finger nail, which adhered to an irregular and apparently inflamed spot on the inner surface of the ventricle; no appearance of the injected fluid could be recognized in this clot, which was continued of the same colour and consistence into the pulmonary artery, and into the vena cava, the azygos, the axillary, and even the right jugular vein.

The intestinal mucous membrane, especially in the rectum, the duodenum, and a small portion of the small intestines, was of a violet red colour, inflamed principally in longitudinal stripes and in patches, which gave a mottled appearance, even to the outer surface of the intestines, before they were opened. This discolouration was not accompanied by any thickening of the tissues, nor by ulceration, and appeared rather the result of ecchymosis or hæmorrhage. The lining membrane of the rectum was principally affected, and its mucous glands were swollen and very prominent. This intestine contained puriform fluid, resembling the matter evacuated before death. The other intestines contained a very thick greyish white mucus. The mesenteric glands were inflamed, and appeared as if infiltrated with blood. The gall bladder was mottled on its surface by brown and violet patches, and contained black, thick, ropy bile, resembling melted tar.

XVI. *Effects of the introduction of Mercury into an artery.* An ounce and a half of mercury, mixed with water, was injected into the left carotid artery of a sheep. The animal immediately evinced pain, and stood immoveable upon its feet. The head was held down, there was stupor and heaviness, and the eyes were protruded and widely open. The fore legs subsequently became bent, and the head inclined over the right shoulder with a kind of convulsive rigidity, which continued

readily collapse when the chest was opened. The auricles of the heart were greatly distended with black blood; the inner surface of the left ventricle presented a white patch, of about two square inches in extent; the lining membrane of the aorta, for several inches, was of a bright red colour; this extended round one-third only of the circumference of the vessel. No other structural change could be found in the heart or vessels, which would account for the symptoms observed during life.

till death. Two hours afterwards, the animal became comatose, with some convulsive motions of the limbs, and the left eye became red and inflamed. Death took place fifty hours after the operation.

Post-mortem appearances. The left eye was found in a state of suppuration, and contained mercury. Many of the branches of the left carotid also contained some mercury, which had not penetrated to the capillary system. All the organs supplied with these vessels were red, swollen, and inflamed, in consequence of the presence of the foreign matter. The thyroid gland, the tongue, the cheeks, and the lips, were, however, only affected as far as the median line, leaving the opposite halves pale and in their natural condition.

XVII. A drachm and a half of mercury, mixed with some warm water, was injected into the crural artery of a large dog. The animal evinced no pain, and walked resting slightly on the affected limb, which became sensibly colder. After the expiration of an hour, the animal refused its food, became restless, and indicated severe pain in the limb, which was now very hot. On the following day, the leg was swollen and œdematous. On the third day, there was extreme thirst, increased œdema, and great suffering. The animal was killed sixty hours after the operation.

Post-mortem appearances. No disease was found in any organ, excepting the affected limb. This was swollen and œdematous in every part; abscesses of different sizes had formed, which contained sanious fluid, mercury, and pus; some parts were in an incipient state of mortification, and gave out a considerable quantity of air. Globules of mercury were found in different parts, occupying usually the centre of the abscesses, and ran out upon the scalpel when incisions were made into the limb.

XVIII. *Effect of the injection of Oil into an artery.* Three drachms of olive oil were thrown into the crural artery of a large dog. Slight pain was experienced, and the limb became evidently cold, and the pulse under the tendo-Achillis could no longer be felt. Two hours afterwards, a like quantity of oil was again injected. The leg now began to inflame, and became tender. The following day, the whole limb was œdematous, much swollen, and very painful. Twenty-nine hours after the first experiment, the muscles of the thigh and leg, as well as the cellular tissue, were found in some places gorged with blood, and inflamed in lived patches; in others, infiltrated with yellow serum and gelatinous exudations. No oil could be detected in the affected parts.

XIX. An ounce of putrid water, in which some beef had been macerated, was injected into the crural artery of a middling-sized dog. The artery having been tied, the pulse ceased below the tendo-Achillis; the limb, however, preserved its usual degree of heat, offering a contrast in this respect to the last experiment. A considerable degree of fever and restlessness followed the operation; this continued the whole day and the following night, without any vomiting or evacuations, which so constantly followed similar operations upon the veins. The next day the limb was very painful, but not swollen; there was thirst, with the ordinary secretion of fæces and urine. On the third day, the animal was evidently better; the appetite had become almost natural, and he could walk more easily, although the limb was still very painful. In the night, there were some soft, almost liquid, evacuations. The fourth day, the

animal was evidently recovering, when an ounce and a half of very fetid and very concentrated fluid (derived from the maceration of beef), was injected into the crural artery of the opposite limb. The animal immediately evinced pain, accompanied by very violent and remarkable palpitation of the heart. It walked lame, keeping the leg raised, and soon became feverish and uneasy. The symptoms were exactly the same as after the first experiment. The leg became gradually more and more painful, extremely sensitive, but not infiltrated with serum. During the night, there was much expression of pain; the animal was in continual motion. Death occurred nineteen hours after the second injection. The limb had become swollen only within five or six hours previous to death.

Post-mortem appearances. The limb presented a very large quantity of bloody fluid infiltrated in all the tissues. The superficial muscles were black, and presented more or less the appearances of gangrene. The deep muscles existed as such no longer, but were entirely disorganized, and converted into a putrid pulp, resembling masses of the red lees of wine, extremely fetid, and disengaging a quantity of gas. The limb first injected was still swollen, and presented, in the interior of the adductor muscles, two or three cavities filled with a putrid bloody serum. In the chest, the lungs were healthy, as were also the right cavities of the heart; but the left cavities presented several reddish-black spots, scattered over the external surface. In the left auricle was a firm yellowish-white coagulum, adhering to an inflamed spot on its inner surface. The intestinal canal was filled with a brownish red fluid, resembling altered blood, which, in the stomach and duodenum, was of the colour of soot. The mucous membrane of these organs, as well as of the jejunum and rectum, were gorged with blood, of the colour of the lees of red wine, but without any inflammatory thickening of their coats.

XX. *Effect of the introduction of Air into an artery.* Seven or eight cubic inches of common air were injected gradually into the crural artery of a large dog. A peculiar rustling noise, depending upon the admixture of the air with the blood, accompanied the operation. No particular symptoms followed; but after some minutes the corresponding vein became distended with frothy blood, which moved with difficulty, and became stagnant in the vessel. The whole limb crepitated upon pressure, but no untoward symptom presented itself for more than half an hour. An ounce of water, to which seventy drops of medicinal prussic acid had been added, was now injected into the same artery. This produced no apparent effect upon the constitution.

A quarter of an hour after, an ounce of saturated solution of nux vomica was injected into the same vessel. This also was followed by no particular symptoms. An hour after the first injection, half an ounce of a weak infusion of tobacco was introduced into the same artery. Excessive pain immediately followed, accompanied by great rapidity of breathing. The animal now appeared as if he were going to die; however, he slowly recovered, appeared giddy and inclined to vomit, and kept himself in a continual state of restlessness. This condition was succeeded by fever, accompanied by extreme sensibility of the limb, and irregularity of the pulse. At the expiration of some hours, he appeared better; the pulse became more regular and less feverish, but the leg continued swollen, and extremely painful upon

pressure. During the night, the pain returned, indicated by howling and restlessness. There were several evacuations of fæces and urine. The following morning, there was great prostration with much fever, and continued howling. The limb was slightly emphysematous, greatly swollen, inflamed, and infiltrated with serum.

On the following day, two ounces and a half of water, in which some nux vomica had been boiled, were injected into the crural artery of the opposite limb. The dog expressed no pain; but, at the expiration of ten or twelve minutes, slight convulsive motions became evident, which were gradually converted into violent tetanic spasms. The animal threw himself backwards with his limbs extended, and died, after repeated convulsive attacks, an hour and a half after the last injection.

Post-mortem appearances. On opening the body, *no unusual appearances were observed in the limb* upon which the last experiment had been tried, but the opposite one was tumid and emphysematous, infiltrated with a greyish red frothy serum of a fetid odour. *The small vessels were obstructed by firm clots of blood.* The gall-bladder was greatly distended; and the intestinal canal contained a quantity of yellowish mucus.

(To be continued.)

ON PROCREATIVE POWER.

By C. H. F. ROUTH, M.D.Lond., Physician to the St. Pancras Royal General Dispensary.

The physiological and mathematical determination of the Procreative Power of Man is a portion of vital statistics, which, I believe, has not hitherto been properly investigated. When we contemplate the very interesting nature of the inquiry, and its importance as applied to individuals and national exigencies, and to emigration societies in particular, the cause of this omission is not very clear. Probably this neglect has, in a great measure, arisen from a natural disinclination in most persons to contend with controverted facts and dismembered statistics, and to perform the heavy arithmetical calculations required. There is, it is true, always more or less difficulty in investigating any new subject; and more especially in applying statistical data, originally drawn out for a totally different object. Moreover, many of the investigations are often, after all, founded on insufficient data; and what is still more embarrassing, frequently this disadvantage is not discovered till a series of heavy calculations, founded upon them, has been made, and a palpably absurd result has been brought out. Herein, therefore, is a source of great delay and annoyance. Further, when a question like the present involves a point in the physiology of man, he who would investigate its real nature, must consult statistical data, not only founded upon the experience of one, but of several nations. In making, however, this comparison, he is met at once by a most embarrassing difficulty. The statistics of no two nations involving questions of population are founded upon the same general plan; and it thus often happens, that a point elicited by the examinations of the vital statistics

of our own country, cannot be confirmed by those of another. Even among ourselves, the plan adopted by the Census of Ireland Commissioners is totally different from that adopted by the Census Commissioners of Great Britain. The arrangement of years is different; and several most important omissions are made. Thus, in the returns of Great Britain, no table of the number of married, unmarried, and widowed persons is given, in which the ages are at the same time distinguished; nor is there any table of fecundity; perhaps, also, conclusions are sometimes made, the truth of which may be questioned. In the following pages, we shall often have to recur to these difficulties, by which, unfortunately, our conclusions are in some degree vitiated. Indeed, so frequently have I been embarrassed in the course of this inquiry, by such obstacles, that I have been more than once induced to abandon it altogether. Assisted, however, by an excellent mathematician, and by the prospect of probably calling attention to a subject of general utility, of disproving, perhaps, a few of the dogmas of the present day on the exigencies of an overcrowded population, and pointing out some foundation upon which something like a scientific superstructure might be raised, I have persevered in my endeavour to accomplish my object. Imperfect, nay, very imperfect, as the attempt must necesarily be in many of its details, it may, nevertheless, not be altogether presumptuous to hope, that the perusal of the succeeding pages may, by calling the attention of the learned to this portion of vital statistics, lead to the collection of such data as may hereafter place this branch of science upon something like a correct foundation.

VARIETIES OF PROCREATIVE POWER.

Procreative Power is that power inherent in every animal, which, when brought into practical operation by the union of the sexes, assures the continuance of the species. Man, in his animal relations, possesses this power in common with all created beings; yet, by the very fact of his being an intelligent creature, his procreative power must be regulated by, and depend upon, several auxiliary influences, all of which must modify or bear upon its general action and exercise in the inhabited globe. Of these, three only will be considered; the others may be incidentally alluded to as we proceed, but they affect the question so little, that they need not be particularly enumerated.

I. A person must have obtained that physical constitution of body which enables him to procreate; in other words, he must have reached the age of puberty. Thus, children generally cannot have this power. Having once obtained the age of puberty, a person will continue to have this power for a number of years; at the end of which time, a new change will come upon the animal organism, and the power of procreation will be lost; in other words, the procreative power has its limit as well as beginning. But between the period of its commencement and termination it is not equally powerful; there is a particular age in which it is most powerful, most effective; in other words, a maximum age of procreative power. For instance,—it is not sufficient to know that a man is within the limits of procreative ages, but the actual age must be known also, as according to that age he will have more or less

procreative power. This procreative power we have denominated as the *Physiological Procreative Power*. Furthermore, it may be convenient to distinguish it as of two kinds. (*a*) A man of a certain age will have a certain average amount of physiological power when brought in union with *women of all ages*. It will be greatest, it is true, when the wife is at her maximum age of procreative power, and least when she is reaching the limits of its disappearance: but, nevertheless, taking women of all ages, the average physiological procreative power will be expressed by a fixed number. (*b*) For every different age of the female, with the same age as the male, it will be different, and expressed by a different number. Hence the necessary division into two kinds,—1st., the *average* physiological power, and 2nd, the *united* physiological power. Both of these will necessarily have a certain and fixed relation one to another.

II. It will be likewise affected by the social condition of the person, especially if he be married or not married. The procreative agents of a nation are, if not exclusively, at least eminently, the married persons. Taking our population of this year (1850) as calculated by the Registrar General, it amounts to 29,679,000, with an annual increase of 305,000; of these, 285,000 are exclusively produced by married persons, and yet the difference in numbers between the married and unmarried population is expressed by the numbers, 100 and 293, or nearly 1 to 3. If out of this number we separate the active procreative agents, or at least persons possessing physiological procreative power, from children and old persons who are incapable of procreation, the numbers will be in the proportion of about 260 unmarried or widowed to 100 married. It follows, that about 9,000,000 persons only, or about 4,500,000 of couples out of the 29,000,000, produce, annually, this increase. We have said that the increase is not exclusively produced by married couples; because, although with most unmarried persons the procreative power is dormant, still with some it is active, as in the production of illegitimate children. Thus the increase to the population from this source, will be 20,000 out of the 305,000. This kind of power, dependent upon the social condition of a person, we have contra-distinguished as *Practical Procreative Power*, which may be further subdivided, according as the person is married or unmarried, into *connubial* or *ex-connubial* practical procreative power.

III. Procreative power will also be modified in the unmarried by two other contingent circumstances;—1st, the chance he has of getting married, or becoming possessed of connubial procreative power;—2nd. it depends also on his expectancy of life. Thus, supposing two persons marry at the same time, it is clear that the one who runs the risk of dying soonest, *cæteris paribus*, cannot have the prospect of having as many children as the other. This kind of procreative power we have termed the *Expectant Procreative Power*. Children, in the two last cases, may have their power represented by a certain number, just according as a child has a chance of reaching a marriageable or procreative age; and thus of becoming a practical procreative agent. In this manner, they may be looked upon as having a nominal or prospective amount of procreative power.

To recapitulate: every person's procreative power is made up of—1st, his physiological, 2nd, his practical, and 3rd, his expectant procreative power. This totality may be expressed by the term *Absolute Procreative Power*, which may again be subdivided into two kinds, according as the individual is unmarried or married,—the *Ex-connubial* and *Connubial* Absolute Procreative Powers.

PHYSIOLOGICAL PROCREATIVE POWER.

In fixing the limits of Procreative Power, it should be remembered, (more especially for the practical bearing of the question), that it is not so much the early limit we should insist upon and endeavour to fix accurately, as the late. And this is manifest, because most persons at these later ages are married, and therefore in the position of being active procreative agents. In fixing the limit of the disappearance of procreative power too low, we are therefore materially vitiating the result. In the earlier ages it is not so important, as whatever be the exact age at which the power begins, it is seldom active before sixteen, and the proportion of increase of population by persons of this age is comparatively unimportant.

The first thing to be remarked in reference to these limits, is that procreative power will differ according to the sex. Its limits have not been hitherto very distinctly made; and yet there appear to be four ways in which it may be estimated in the female, and three in the male. In the former only, by the first appearance and cessation of the catamenia; and in both sexes,—1st, by the ages at which crimes arising from sexual desires are committed; 2nd, by the fecundity tables, where the age of the parents is given at the birth of their children; and 3rd, though here less decidedly, because fallacious influences more readily vitiate the result, by the ages at which persons marry.

I. *(a)* In the female, the catamenia are usually said, in this country, to begin at fifteen, and to disappear at forty-five. In warm countries, however, they are believed to begin and end earlier. Upon the latter point, however, and in the absence of any statistical data upon which alone any dependence can be laid, I am inclined to be very sceptical. Looking to the limited opportunities for observation of travellers, upon whose statement this opinion is founded, and other causes of error, as noticed by Dr. Churchill, I am inclined to believe that the instances recorded by them are exceptions, precisely similar to those cases recurring amongst ourselves; and that there is, probably, no such great difference in the age of uterine activity in different countries. The annexed table, collected from various sources, will shew how little the opinion before given, touching the earlier appearance of the catamenia in warm countries, is to be depended on, as there appears to be, in reality, very little difference between its commencement in Marseilles, England, and Germany. In the following table, consisting of 4433 cases, in which the first appearance of the catamenia was noted, 4 cases of M. Brierre de Boismont, occurring, respectively, one at 5 years old, one at 7, and two at 8 years old, have been omitted, as they appear to have been rather cases of *lusus naturæ*, and as their insertion would only affect the result in the second place of decimals.

[TABLE,

Table, showing the Age at which the Catamenia occurred in 4,433 *Females for the first time.*

Age.	Marseilles and Toulon.	Paris. M. Despines.	Gottingen. Osiander.	Lyons. Petrequin and Bouchaincourt.	Brierre de Boismont.	London. Dr Murphy.	Manchester. Mr. Roberton.	London. Dr. Lee.	Dr. Henry Bennet.	London. Dr Routh.	Total.	
9	0	1	0	0	10	3	0	11	0	0	25	
10	0	0	0	5	29	0	0	55	5	0	94	
11	6	3	0	14	93	15	10	52	16	2	211	
12	10	14	3	26	105	37	19	86	28	8	336	
13	13	6	8	47	132	57	53	153	35	10	514	
14	9	18	21	50	194	107	85	204	42	19	749	
15	16	14	32	76	190	119	97	201	42	16	803	
16	8	7	24	79	141	110	76	154	26	15	640	
17	4	6	11	58	127	57	57	101	20	18	459	
18	2	5	18	38	90	34	26	78	23	2	316	
19	0	8	10	21	35	9	23	33	10	1	150	
20	0	0	0	9	30	6	4	23	6	2	80	
21	0	3	8	5	8	3	0	6	0	0	33	
22	0	0	0	0	8	2	0	2	0	0	12	
23	0	0	2	1	4	0	0	1	0	0	8	
24	0	0	0	3	0	0	0	0	0	0	3	
Total	68	85	137	432	1196	559	450	1160	253	93	4433	Mean Age, 14·91

Touching the disappearance of this function, we have but few statistical data, for which reason, much reliance cannot be placed in the result obtained. There is also in the following tables a great source of fallacy, especially applicable to those cases where the catamenia did not disappear till a very late age; viz., the possibility of uterine diseases existing, an affection by no means rare in old females. It is, therefore, here subjoined, more for reference than as any actual ground of conclusion.

Table, showing the Age at Cessation of the Catamenia.

Age.	Mr. Roberton.	Dr. Routh.	Total.	Age.	Mr. Roberton.	Dr. Routh.	Total.	
35	1	0	1	50	26	1	27	
38	0	2	2	51	2	1	3	
40	4	1	5	52	7	3	10	
42	2	0	2	53	2	0	2	
43	1	0	1	54	2	0	2	
44	3	3	6	55	0	1	1	
45	4	5	9	57	1	0	1	
46	0	1	1	60	2	0	2	
47	3	3	6	70	1	0	1	
48	10	3	13					
49	7	0	7	Total	78	24	102	Mean Age, 48·49

The fact, moreover, should not be lost sight of (as bearing on the relation between the cessation of menstruation and the cessation of procreative power), that it is not uncommon for females to become pregnant, in whom no menstrual period has occurred between the present and a

former pregnancy. This, I believe, is a point admitted by all accoucheurs. Indeed I have known a few cases, in which this absence of menstruation has persisted through several consecutive pregnancies; and, lastly, although we cannot reduce this statement to numbers, I believe that these examples most frequently occur at the later ages of procreation. In such cases, therefore, the cessation of the catamenia is no index of the cessation of procreative power.

(*b*) From the Fecundity Tables a more certain result is to be obtained, more especially with reference to the cessation of this physiological power. First, from the Irish Fecundity Table, where the ages of the parents on the wedding-day, as well as the number of children born during a period varying from 1 to 11 years, are given.

Table of the Number of Marriages, and the Issue from such marriages occurring in the Eleven Years ending 1841, *for women of the ages under* 17, 46-55, *and above* 55.

Age of Husband.	Age of Wife.	No. of Marriages.	Prop. of Children to 100 marriages	Age of Wife.	No. of Marriages.	Prop. of Child. to 100 Marrgs.	Age of Wife.	No. of Marriages.	Prop. to 100 Marriages.
Under 17	Under 17.	661	256	46 to 55	1	0	Above 55	1	0
17—25		9,847	262		35	51		3	0
26—35		4,066	252		145	51		12	0
36—45		313	248		227	39		15	20
46—55		36	205		428	22		52	10
Above 55		18	128		295	10		136	12
Total...		14,947	257		1,131	26		219	12

In the two following tables, we have the proportion of pregnancies of 2509 females, admitted as lying-in patients in the Westminster General Dispensary, under Dr. Bland. There were 36, or 1 in 58, admitted pregnant between the ages of 15 and 19. Thus:

1	between	15	and	16	
1	... ...	16	...	17	
2	... ...	17	...	18	
10	... ...	18	...	19	
21	... ...	19	...	20	
36					

In all there were—

85	between	15	and	20	or	1	in	25
578	... ...	21	...	25	...	5	...	19
699	... ...	26	...	30	...	1	...	3
407	... ...	31	...	35	...	1	...	5
291	... ...	36	...	40	...	3	...	22
336	... ...	41	...	45	...	1	...	58
6	... ...	46	...	49	...	1	...	350
2509								

The following is a list of 1,527 cases admitted in the St. Pancras Royal General Dispensary, in the practice of Mr. Smith, Dr. Cox, and Mr. Greenhalgh.

Age.	Number of Conceptions.	Age.	Number of Deliveries.	Age.	Number of Deliveries.	Age.	Number of Deliveries.	
16	1	26	83	36	62	46	2	Mean Age, 30·12
17	0	27	80	37	47	47	2	
18	5	28	85	38	48	48	2	
19	16	29	96	39	31	50	2	
20	33	30	139	40	50	52	1	
21	56	31	61	41	7	55	2	
22	56	32	88	42	17	57	1	
23	67	33	59	43	15			
24	77	34	71	44	9			
25	83	35	69	45	4	Total	1,527	

The Fecundity Table for Sweden and Finland, gives about the same limits.

Age.	Annual Average Number of Deliveries.	Proportion to 100 Females living.
15 to 20	3,298	2·48
20 — 25	16,507	12·56
25 — 30	26,329	21·64
30 — 35	25,618	22·82
35 — 40	18,093	18·32
40 — 45	8,518	9·54
45 — 50	1,694	2·28
50 — 55	39	·05

Thus, as far as we can judge from these fecundity tables, it does not appear that women younger than fifteen have borne children. In the St. Pancras Dispenary table, there are three cases only, where females fifty-five and above fifty years old were delivered. In the Irish table, however, a greater number of such cases occur. Thus far it is proved, that it is inaccurate to say too generally, that women cease to procreate at forty-five. It appears that, in ten years in Ireland, out of 427,977 marriages of women of all ages, there were 1,350 marriages of females between forty-six and fifty-five, and above fifty-five, with a mean of fourteen children to 100 marriages.

(*c*) As I have before stated, the marriage tables afford some degree of information, with regard to the first appearance of procreative power. It is natural to suppose, that in an enlightened age, like the present, parents would prevent marriages of their children if the signs of puberty were absent; and upon this presumption, we might infer the existence of procreative power in all couples marrying early. The marriage tables, however, being for the most part arranged by ternal, quinquennial, and decennial, and not by annual periods, the precise age at which marriage occurred is not given. In the Irish tables, all early marriages are included in the term under seventeen, which may, and most likely does, only include two years: fifteen and sixteen. With females in Ireland, the number of such marriages is stated to have been, in the eleven years preceding 1841, 14,947. The English marriage table includes the marriages under the general terms, between fifteen and under twenty; but, excepting that the mention of the former age justifies the belief that some marriages do take place at fifteen, the division is too

ambiguous to enable us to say distinctly, what is the earliest age at which they occur.

(*b*) The Criminal Tables give no very good index as to the early period for females. In the three following, that for England and Wales is defective, as it unites the sexes.

Table of Sexual Offences for the United Kingdom.

	England and Wales. 5 years.	Ireland. 1845-7.		Scotland. 1842-1846.		Ireland and Scotland	
	Centesimal proportion of offenders.	To 100,000 population.					
	Persons.	Males.	Females.	Males.	Females.	Males.	Females.
Under 12	—	—	—	—	—	—	—
12 — 16	3.4	1·46	—	4·14	—	5·60	—
16 — 20	18·0	17·73	3·81	16·19	4·62	33·92	8·43
21 — 30	32·8	31·24	7·02	17·80	7·94	49·04	14·96
31 — 40	22·4	16·04	3·26	13·19	4·70	29·23	7·96
41 — 50	12·8	7·16	·29	5.97	·28	13·13	·57
51 — 60	6·9	4·18	·76	4·40	.02	8·58	·78
Above 60	3·7	3·03	—	4·54	—	7·57	—

In the above tables, in the statistics for Ireland and Scotland, the offences only, which may be said to arise from sexual desire, are included. These, in addition to two of an unnatural kind, which need not be specified, are rape and carnal abuses of girls; and, in addition, bigamy, concealment of the birth of infants, and child-dropping. Bigamy, because the motives that induce a man to commit it, are the same as those which induce him to marry; and the two latter, because they invariably occur among persons giving rise to illegitimate children, whose sexual passion may be, therefore, said to have led them into error. It is true, that other motives may sometimes have their influence, but these cannot be now considered. The same objection to defining the age of the first commencement of the sexual desire, offers in this as in the case of marriages. Concerning the limit, however, in females, sexual desire does not appear to exist above sixty. Duly weighing, therefore, all these results, it appears most correct to limit the existence of procreative power in females, between the ages of fifteen and fifty-five.

II. (*a*) In the case of males, our evidence is of a different kind. In one respect, it cannot be so precise. We labour under the disadvantage of not having a function like that of the catamenia, upon which to found our conclusions, It is usually said, that the approach of puberty in males is marked by "the change of voice, growth of hair on the pubes, and the occurrence and discharge of semen." We are not, however, acquainted with any statistical data in which the age of the first appearance of these signs, either single or conjointly, has been noted. The only tables which appear to give some positive information on this subject, are the Irish Fecundity Tables. Here again, however, we have the two undefined terms of "under seventeen and above fifty-five" occurring, the former of which may include two or three, the latter several years. It is useful, however, as pointing out, approximately, the periods at which procreative power is effective.

Table of the number of marriages, and the issue from such marriages occurring in the eleven years, ending January 1841, *for the ages of husbands under* 17, 46 *to* 55, *and above* 55.

Age of Wife.	Age of Husband.	No. of Marriages.	No. of Child. to 100 Marrgs.	Age of Husband.	No. of Marriages.	No. of Child. to 100. Marrgs.	Age of Husband.	No. of Marriages.	No. of Child. to 100 Marrgs.
Under 17	Under 17.	661	256		36	205		18	128
17—25		757	256	46	1,516	210		240	169
26—35		92	203		2,469	167	Above	461	119
36—45		4	—	to	1,335	70		429	43
46—55		1	—		428	22	55.	295	10
Above 55		1	200	55	52	10		137	12

It will be seen by this table, that the number of marriages of males at the earlier ages is less than that of females, still they do occur. In Ireland for instance, out of 428,802 marriages, there were 1516 where the age of the husband was under seventeen.

(*b*) The English Table for Marriages is still less precise. The early marriages of males are included under the given nominal period from fifteen to twenty, and only seem to justify the inference, that, while at this early period a few take place, their number is small, as compared with females; since, out of 20,437 marriages given, only 537 among the males, and 2711 among the females, occurred, where the parties were respectively between fifteen and twenty years old. As a rule, however, it is believed, that in England, men seldom become active procreative agents before sixteen; and this number appears to receive some confirmation from the marriage tables.

(*c*) The Criminal Tables before given, give the cypher 5·60, as the amount of sexual offences committed by males between the ages twelve and sixteen, to 100,000 of the population of every age. This number, however, compared with the next period, sixteen and twenty-one, is very insignificant; but in either case, the terms are too vague, and the period too lengthened, to enable us to infer, very accurately, the early age. Moreover, the offences that do occur at these ages, twelve and sixteen, are precisely those where other motives than sexual desires may influence the perpetrators. Duly weighing all these results, it seems, therefore, more correct to fix the age of sixteen as the early limit. But if puberty appears *later* in males than in females, the physiological procreative power certainly *persists longer*. Thus, in the marriage ages from forty-six to fifty-five, their power, in 1 to 11 years after, is represented by the number 144, while that of females, for the same period, is only 26; and for the ages above fifty-five, it is represented by the number 77, that for females for the same period, being only 12. Indeed, a male, from forty-six to fifty-five years old, has almost as much procreative power as a female from thirty-six to forty-five, whose power is represented by the numbers, 1 to 99. It is clear, however, from the table given above, that it persists above fifty-five, but it does not shew how long it continues after this period.

The Criminal Tables will, perhaps, justify a further inference. The sexual offences committed in Scotland and in Ireland, for the period

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above sixty, (i.e., from sixty to sixty-six) are represented by the cypher, 7·57, a number almost equal to that of females for the ages thirty-one to forty, and exceeding that for males for the ages sixteen to twenty-one. So far, then, as these tables go, they seem to justify the conclusion, that men have procreative power above sixty.

M. Bernard Hebellen, in a paper published in the *London Statistical Society's Reports*, speaks of sixty as the age in males, from the probable marriage of whom, no issue could be expected. Our own experience, we must say, is not confirmatory of this opinion, as we have known several instances where, with a young wife, men, as late as sixty-eight, have had several children. Here, however, we speak with great diffidence, from the absence of statistical data by which to support our own opinion. The Marriage Tables will, in some measure, however, assist us in fixing this limit. Thus, if we take the number of marriages occurring to 100 of the unmarried population, living between the ages of fifty-five and eighty-five, as given, for instance, in the Irish tables, and take the mean age, we obtain sixty-six as the average age. But here, another objection presents itself, as regards this limit deduced from the Marriage Tables. When persons marry late, they do so, frequently, from motives of convenience, apart from any sexual desire. According to the number of these marriages of convenience, there will necessarily be a tendency to diminish the value of marriages, as a test of sexual desire. In this calculation we labour, therefore, under the disadvantage of including all these exceptions. Yet it is convenient (as it is the end of a quinquennial period), to fix, for practical purposes, the age sixty-six or sixty-five, the former of which is the mean of all marriages occurring after fifty-five, as the limit of the duration of physiological power. It is true, we may thus give rise to more or less error for the last three or four years; but this is inconsiderable, as it affects only the results for the period above fifty-five, and these only in the second place of decimals.

AVERAGE PHYSIOLOGICAL PROCREATIVE POWER.

In fixing the limits of Procreative Power, it also appears, *à priori*, that the maximum age of fecundity will be that at which most marriages occur, and in which those offences, arising from the desire to gratify sexual passion, are most numerous. How far these suppositions are correct, the following inquiry will, in a great measure, shew.

In relation to the first of these points, it is laid down by Captain T. A. Larcom (*Journal of Statistical Society*, vol. viii, p. 212), that the most marrying race shew the lowest cypher of fecundity; and the authority of Mr. Gregg, in his work on the *Social Statistics of the Netherlands*, is adduced as evidence of this fact. It is not purposed to enter upon this controversy at present. It is presumed, however, that it will not be denied to be rational, *à priori*, to suppose, that with any person whose moral and better feelings are not entirely extinct, the marriage tendency will be greatest when his sexual passions are strongest. The number of marriages, *at all ages*, may not bear a direct proportion to sexual passion, for the reasons before given; but the maxima in both cases will agree.

If, now, sexual passion be looked upon as an index of fecundity, or, in

other words, the most impassioned be allowed to have most procreative strength, then marriage tables, tables of sexual offences, and of fecundity will, in so far as the maxima are concerned, pretty nearly agree. Now, so far as analogy among the brute creation goes, it is favourable to the supposition. An animal, when in heat, is in the condition most favourable to procreation. Indeed, in most, if not in all cases, this preliminary excitement is a *sine quâ non* to conception. Woman, it is true, differs, in this respect, from other animals, in being always capable of procreation, so long as the catamenial function persists; but we are not aware of any data that shew, that when, within procreative ages, the sexual passion is strongest, she is not then most liable to conception. We have already spoken of morbid feelings which may exist without procreative power; but, in default of statistical data to prove this assertion, it behoves us to inquire how far these opinions are carried out by the indirect statistical documents at our command.

(*a*) At what age do most people marry? Tables are given for several countries, in which the number of marriages that take place annually, at different ages, is set forth. It is right, however, in deducing our conclusions, also to take their ratio to the population of unmarried persons living at every age. Thus, there may be more persons living at one age than at another. In the former age, therefore, more marriages may positively take place, though relatively fewer than in the latter age. Moreover, in making this comparison, the married should be excluded from the population, as these can give no index as to the desire of marriage among the unmarried.[1]

[1] This disadvantage exists in a marked manner in our English tables. We have no table of the unmarried population for corresponding periods to make the comparison; therefore, by including the married, our conclusions are necessarily vitiated. The calculation has, however, been made, and the table is given here for reference, to make this source of fallacy more evident by comparison with other tables.

MALES.				FEMALES.				
Age.	No. of Weddings.	Weddings to 10000 population.	Reduced to a maximum of 100	Age.	No. of Weddings.	Weddings to 10000 population.	Reduced to a maximum of 100	* Maximum ordinate for Males, 160·15 — Females, 115·15
15—20	537	5·94*	3·70	15—20	2,711	27·40*	23·79	
20—25	10,383	12·58	7·78	20—25	10,424	107·06	92·97	
25—30	5,103	74·35	46·42	25—30	3,951	50·03	43.44	
30—35	1,900	29·35	18·32	30—35	1,498	21·15	18·36	
35—40	944	18·97	11·84	35—40	739	13·95	12·11	
40—45	603	12·00	7·78	40—45	532	9·94	8·63	
45—50	371	10·59	6·61	45—50	273	7·18	6·23	
50—55	271	7·68	4·79	50—55	161	4·17	3·62	
55—60	147	6·71	4·19	55—60	69	2·04	1·77	
60—65	112	4·60	2·87	60—65	55	1·99	1·72	
65—70	41	2·96	1·84	65—70	17	1·05	·91	
70—75	15	1·24	·76	70—75	5	·35	·30	
75—80	6	·91	·56	75—80	2	·26	·21	
80—85	4	1.19	·67	80—85	...	...	...	

From these results, it appears that most women marry at the age of 22·80, and most men at that of 27·80, or persons in general, at 24·94. In the American table the same error exists, and males and females are not distinguished. The maximum age, however, obtained, differs but little from that of the English table, namely, 25·84.

In the Irish table, in which the number of married and unmarried persons, for corresponding periods, are given for comparison, the result obtained is much higher; the maximum age being, for males, 31·84, and for females, 26·34, or for persons, 28·61. The total number of marriages that took place in the 11 years, from 1830 to 1840, inclusive, are given in the following table; the calculation is made upon the population of 1841. It would have been more correct to use the mean population for all these 11 years; but in the numbers now obtained, positive accuracy is not so much sought after, as results for practical application.

Marriage Table for Ireland, 11 *years ending* 1841.

	MALES.				FEMALES.			
Age.	No. of Weddings.	To 10000 population.	To a maximum 100.		No. of Weddings.	To 10000 population	To a maximum 100.	
Under 17	1,516	80·81	·92	Maxim. age, 31·84	14,941	831·11	13·3	Maxim. age, 26·34
17—25	191,677	3021·23	34·4		305,312	4977·90	79·26	
26—35	193,639	8335.63	94·8		98,195	4981·20	79·32	
36—45	33,830	4115·57	46·7		8,279	701·61	11·1	
46—55	5,836	1128·82	12·7		1,131	101·61	1·5	
Above 55	1,579	167·76	1·6		219	10·63	·16	

Other marriage tables were obtained; but as a comparison could not be made with the unmarried population only, and as, moreover, the population was frequently grouped in periods different from those in which the marriages were arranged, the deductions made were considered insufficient, and accordingly rejected.

(*b*) The Criminal Tables before given, bring out maxima, which, after all, are not very different from the above. That for England and Wales gives 28·50 as the maximum age for persons; the Irish marriage tables, taken also for persons, give 29·09: two results which come very near one to another.

The United Table of Sexual Offences committed in Ireland and Scotland, gives—

Maximum age for	Males	28·00
Ditto for	Females	26·66
For Ireland alone—for	Males	27·01
Ditto	for Females	26·55
For Scotland alone—for	Males	28·09
Ditto	for Females	26·77

These results, for females, may be said almost entirely to agree with those obtained from the Marriage Tables, though there is some slight difference as regards males. The reality is, perhaps, that for the ages between twenty-seven and thirty-one in males, there is very little difference in the amount of procreative power. The mean of the Marriage and Criminal Tables is 29.

There is another way, in which this apparent discrepancy may be explained. The calculations of the criminal tables are made upon the whole population, married and unmarried. This was purposely done, because bigamy is an offence belonging only to married persons, and to which, therefore, a comparison with the unmarried, exclusively, could not apply; but, it has the disadvantage of affecting, perhaps, the propor-

tion, in relation to the other sexual offences. These, (though, perhaps, occasionally, a married man may be implicated) are chiefly committed by unmarried persons. On the other hand, however, the amount of this error could not be shewn, as there is no table of the unmarried and married persons, for the periods of age here given; and the comparison was, therefore, impossible. Having thus to choose between two evils, we selected the least, though a simple consideration of the above facts would explain, why the criminal tables might give a lower maximum. The nature of the sexual offences committed by women, explains why their maximum cypher is not equally vitiated.

(*c*) We would naturally expect, however, that the accuracy would be much greater, if we deduced this maximum from Fecundity Tables. Undoubtedly, this would be the case, if these were constructed with more care; and the calculations would be as brief as correct. It would suffice to know the age of the parents at the birth of every child; and that age in which, relatively to the population of active procreative agents, most children were born, would be the age of greatest fecundity. Unfortunately, no such tables are given; and we are, therefore, compelled to make use of tables comparatively defective.

The Swedish table, before given, would be one of the most valuable in determining this age for females, if the number of active procreative agents were known, relatively to every age. In the absence of these data, it must be rejected. As, also, Dr. Metcalf's Table for Fecundity, in New York, is arranged in periods of years, for which no corresponding table of the active procreative agents (for similar periods), is given, it must be also set aside. Thus are we reduced, for females, to the Westminster and St. Pancras General Dispensary tables, and to the Irish tables. For the males, the Irish table is the only one upon which we can depend.

It may be well to mention here, in speaking of the Irish tables, one capital defect in them, which, if not insuperable, is at least calculated to give rise to very erroneous results. This table, given at page 487 of the Report of the Census Commissioners for Ireland, includes, in the total, not only the children born of parents, while only they continued within the ages in which they married, but also for a period, varying from 1 to 11 years after, when their fecundity would be the same as that of persons who married at a later period. To make our meaning more plain by an example: 437 females married while under seventeen, in the year 1830, and in 11 years they had 883 children. This number is retained, as measuring the fecundity of the age under seventeen; whereas, in reality, these females, in these eleven years, had passed through the phases and procreative power of the next period, *i.e.*, from seventeen to twenty-five, and necessarily enjoyed the procreative power of that period. The number, therefore, as measuring the fecundity to 100 marriages, for this period, should be divided, at least by 11. If the number of those who married in 1831, be taken, the measure of fecundity is at least 10 times too great for this period, and so on. The effect of this is to raise, unduly, the fecundity of the earlier age, up to the maximum, and to lower that of those below this maximum. In order to obviate this difficulty, we have been satisfied to deduce our table of Average Physiological Power from the two years, 1839 and 1840,

dividing by 2 the number of births in the former years. This, it is true, introduces a small amount of error; but it is very inconsiderable. The advantage thereby obtained, quite makes up for this trifling error, by enabling us to correct the inaccurate numbers obtained from the consideration of a smaller number of marriages and births (especially during the earliest and latest periods), occurring in the single year. We begin first with males.[1]

Table of Fecundity for Males for the years 1839 *and* 1840.

Age.	No. of Children to 600 Marriages.			To 100 married population.	To a maximum of 100.	
	1840.	1839.	Total.			
Under 17	60	117	177	16·42*	31·59	
17 — 25	197	154	351	29·25	56·46	
26 — 35	157	160	317	26·42	51·00	
36 — 45	158	161	319	26·58	51·00	
46 — 55	92	110	202	16·83	32·49	
Above 55	60	94	159	13·25	25·57	

*Max. ordinate, 51·89

The maximum for each of these years separately, differing only by 78. That for 1840 being 25·40; that for 1839, 26·22; mean, 25·81.

There can be no doubt, that this maximum is too low; and the reason is obvious. Both the years 1839 and 1840 are defective for husbands under seventeen, as it happened that no marriages took place of males of this age with females from thirty-six and upwards, and only thirty-nine altogether with females under thirty-five. The cypher of fecundity obtained for this age of males is, therefore, much too high; and as it

[1] As before said, we have three tables from which we may deduce the average Procreative Power for females: the Westminster Dispensary, the St. Pancras Dispensary, and the Irish Fecundity Tables. To deduce from the two former the maximum of fecundity, it is necessary that we should have a table of the number of active procreative agents, *i. e.*, the married, as these form so much the greater part among these. There is no such table for England. If to remedy, however, this error, we assume that the proportion in England and Ireland is about the same, which, after all, may not be very far from the truth, we have the following results.

Age.	Number of Deliveries.					To 100 married population.	To a maximum of 100
	St. Pancras Dispens.	Westminst. Dispens.	Irish Fecundity Tbls.		Total.		
			1840.	1839.			
Under 17	1	2	86	175	264	24·78	8·8
17—25	393	661	11,190	12,319	23,563	228·50	82·0
26—35	831	1,106	3,980	4,898	10,815	45·98	52·4
36—45	290	698	160	245	1,396	64·66	23·2
46—55	11	42	5	5	63	2·91	1·04
Above 55	1	0	0	2	3	·21	·14

But in the above table, the number for the period between 26 and 35 is evidently incorrect. This arises from the accidental circumstance, that the number of deliveries in the Westminster Dispensary for this period is so great. The mean of 64·66 and 228·5 is about 146. If this number be substituted, we have for maximum age, 24·01, and maximum ordinate, 278·60. The two Dispensary Tables, worked separately, give results not very different from that above obtained, where the two are combined.

In applying, however, the proportionate numbers for married persons of all ages to the Dispensary Tables, as the usual number of children born to one marriage is

necessarily enters into the calculation for the maximum, the maximum age comes to be too low.

Such as it stands, however, the analysis of the above table brings out the following fact. The procreative power increases exceedingly quick at first, till it reaches its maximum in about eleven years. For the next ten years it diminishes gradually. For the next twenty it remains in *statu quo*, till in ten years more it comes to equal what it was at the age under seventeen, and then gradually, but slowly, disappears.

In estimating the average physiological power for females, we have also made use only of the Irish tables. The two dispensary tables have been rejected, as the correct proportion to the married population of the respective periods could not be made out. An attempt, however, has been made to rectify this disadvantage; and the results are appended for reference in a note.

The Irish Fecundity Tables, worked for two years only with the same precaution observed as in the case of males, fix the age somewhat higher.

Table of Fecundity for Females, for the years 1839 *and* 1840.

Age.	No. of deliveries to 600 married.			To 100 population.	To a maximum of 100.
	1840.	1839.	Total.		
Under 17	104	114	218	36·33	44·96
17—25	230	240	470	78·33	96·94
26—35	185	265	450	75·00	90·28
36—45	129	118	247	41·17	50·95
46—55	81	33	114	19·00	23·51
Above 55	0	37	37	6·16	7·06

giving as a maximum age 26·66, and maximum ordinate 80·80. The maximum age for 1840 alone, is 25·13.

This result would seem to fix the maximum of male and female about the same for average physiological power, and, if anything, rather higher

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estimated in England at three, the total number of deliveries should be trebled, to give the number of marriages.

Age.	Number of Deliveries.				Westminster.	St. Pancras.
	Westminster.	St. Pancras.	Westmins. to a maximum of 100	St. Pancras to a maximum of 100		
Under 17	2	1	65·32	53·76	Max. age.	Max. age.
17—25	661	393	72·22	70·55	22·29	23·67
26—35	1,106	831	55·93	52·92		
36—45	698	290	52·12	24·10	Max. ord.	Max. ord.
46—55	42	11	·34	0·15	73·60	75·48
Above 55	0	1	·0	·019		

It may be here remarked, that the mean maximum age of the two Dispensary Tables is 22·98, a result very near that of the maximum age of marriage among English females. It should, however, be borne in mind, that apart from the error of the English Marriage Table before mentioned, the results are not of equal weight with those of the Irish Tables. The English Marriage Table is calculated upon 40,000 marriages, and the fecundity only from 4,196 deliveries. The Irish are made from upwards of 400,000 marriages, and 17,000 deliveries.

for females than males. The single year 1840 alone makes it higher for males. This is manifestly an error, owing to the accident before noticed. Yet, as the deduction of average procreative power from fecundity tables may be useful for reference, it is perhaps convenient to consider the maxima in both males and females to be 26, at the same time, as by reducing to the same unit, the numbers deduced from the marriage tables, other numbers for the ages 21½, 31, and 41, may be annexed in another column for comparison, and this is what has been done in the annexed table for physiological procreative power.

That there is a curve representing the exact inclination of procreative power, cannot be doubted. Its exact determination, however, is impossible, when such distant intervals as ten years are given as ordinates between the ages. The circle would perhaps be the nearest curve that could be selected, but it very much increases the amount of arithmetical labour necessary. Fortunately, for practical purposes, such accuracy, however desirable, is not absolutely needed. If we suppose these several ordinates joined by a straight line, the procreative power of every age may in this manner be calculated, which, if not exactly correct, may yet be very useful in its application. Accordingly, in the following table, the procreative power for every age has been so calculated.

Table of Average Physiological Power, calculated from the Irish Tables.

Age.	Males.		Fem.	Age.	Males.		Fem.	Age.	Males.		Fem.	Age.	Male. Fem. Fec. Tab.	
	Marr.	Fec.	Fec.		Marr.	Fec.	Fec.		Marr.	Fec.	Fec.			
15	...	...	22	28	82	80	96	41	60	51	51	54	30	5
16	...	31	44	29	87	70	94	42	...	49	48	55	29	...
17	...	36	54	30	93	60	92	43	...	47	45	56	28	...
18	...	40	63	31	100	51	90	44	...	45	42	57	28	...
19	...	45	73	32	95	51	86	45	...	43	39	58	27	...
20	...	49	82	33	91	51	82	46	...	41	37	59	26	...
21	...	54	92	34	87	51	78	47	...	39	34	60	26	...
22	47	61	97	35	84	51	74	48	...	37	31	61	25	...
23	53	70	97	36	80	51	70	49	...	35	28	62	19	...
24	59	80	98	37	76	51	66	50	...	33	26	63	12	...
25	65	90	99	38	72	51	62	51	...	32	23	64	6	...
26	70	100	100	39	68	51	58	52	...	31	17	65	...	...
27	76	90	98	40	64	51	54	53	...	30	11			

ABSOLUTE CONNUBIAL PROCREATIVE POWER.

The above table will not enable us to decide the procreative power of any one couple coming together, whose fixed ages are given; in other words, the United Procreative Power. Herein we are met with one great difficulty. The procreative power, which we have termed the *united* procreative power, is only to be deduced from the Irish Fecundity Tables. It bears a relation to the last table; but, with the data at our command, to determine this relation is impossible. The table for the year 1840, gives the number of children born for one year; and hence, *à priori*, we might hope that the result obtained would be conclusive; such, however, is not the case.

[*Table*

Table of United Procreative Power (Ireland) for 1840.

Age of Wife.	Age of Husband.						Remarks.
	Und. 17	17—25	26—35	36—45	46—55	Abov. 55	
Under 17	20	15	19*	50*	...	...	
17—25	40	44	47	44	35	20	* These numbers represent the number of children born to 100 marriages of each age.
26—35	...	45	48	42	28	22	
36—45	...	43	23	22	26	15	
46—55	...	50	20	...	3	8	
Above 55	...	...	...	...	...	...	

But very little consideration of the above table will show, that to deduce from it the procreative power of other than the middle ages, would be impossible; because, there being but very few and sometimes no marriages in the extreme periods, for obvious reasons, the cypher of fecundity for these periods cannot be depended upon. It is either much too high, or absent altogether, nor does any method for taking a mean in such cases, promise any very correct result.

On analysing, for instance, more closely, the above table for 1840, the power is found, by calculation, to be greatest at the ages of twenty-nine for males, and twenty-six for females. It would be reasonable to suppose, that the maximum age of united power would be the same as that for average physiological power. This is the truth in the case of females, the age being in both cases twenty-six; but it is not true for males. The reason has already been stated. The Irish Fecundity Table for 1840, is defective for the period under seventeen for males; and the cypher of a man's fecundity for the age under seventeen, enters into the calculation necessary to bring out the average maximum age of procreative power for males; while it is excluded in the calculation required for the maximum age of the united power. This accounts for the remarkably low maximum, obtained in the former case. Again, for the ages between thirty-six and forty-five, there is another defect, as it would appear that a man of that age has more procreative power than one of between twenty-six and thirty-five. This may arise from the table giving too small a number, for the fecundity of husbands of the former period. It is in reality, highly probable, as the subsequent reasoning will show, that the fecundity of these two periods is very nearly the same in both cases. If we attempt to raise the cypher of fecundity for the period between twenty-six and thirty-five, supposing that between thirty-six and forty-five to be correct, it must be raised to more than twice its present value, to make the maximum age of procreative power for males twenty-seven. These sources of fallacy, therefore, so entirely vitiate the result, that it was found impossible to make use of the fecundity table for 1840 singly, and the following plan was therefore adopted.

In the Census Tables of Ireland for 1841, the table given at page 487, was selected. The number of marriages, and children born to such marriages, were here given for the eleven years, from 1830 to 1840 inclusive. The number of children born to each couple was divided by the number of years they had been married; and the quotient in each case was supposed to indicate the number of children born to each couple per

annum. In this way, a series of additional numbers were obtained, for comparison with the numbers for 1840.

Had we been satisfied with taking the mean of the numbers so obtained, this proceeding would have been open to the objection, that fecundity is greater in the middle, than in the earlier or the later ages. The cypher of fecundity for the earlier ages would be too high, as the couples would, in these eleven years, be passing through the phases of greater fecundity pertaining to the middle ages, while that for the later ages would be too low, for precisely the converse reason. To take such a mean would, therefore, have been wrong.

Now it is a mathematical theorem that, in any curve, the mean of any number of ordinates, between two fixed points, is nearly equal to the middle ordinate; and differs from it less and less as the two points approach one another. This is most true, when the curve increases very rapidly, and is accurately true for the straight line. Applying this law to the present case, the mean number of children obtained between any two fixed ages by a large number of persons, will be nearly equal to the number of children obtained by that same number of persons in the middle age between the two. This will become more evident by an example. Supposing 27 be the average number of children born to 100 couples, both under seventeen, in eleven years; 27 may be taken as the measure of the fecundity of a couple aged twenty-one, nearly. As each male and female grow older each year, these results come to be arranged in diagonals in the table.

For the sake of greater accuracy, we have reduced this table to one for every two years, by taking means. Moreover, by comparison, the extraordinary and accidental numbers have been corrected; in an arbitrary manner, it is true, yet yielding necessarily results more to be depended upon, and probably sufficiently correct for all practical purposes. The intermediate years have either been filled up in a similar manner, or proportional parts taken.

There are yet two other sources of error, which, in strict honesty, should be here mentioned. 1. The three last years, 1838-39-40, are unfortunate years; as, whatever may have been the cause, there were proportionally fewer marriages in those years than in the preceding. This accident diminishes the value of our table, for the reasoning would be most correct for the later and least so for the earlier; and, 2. the results from the preceding years are formed from better data. These two errors mutually aid one another in vitiating the results.

No method, however, to obviate this inconvenience could be found; and hence, the results must be considered as unfavourably influenced, though probably not sufficiently to affect their practical utility. (See Table, p. 258.)

It is clear, however, that although the table (p. 259) may be looked upon as expressing the relative fecundity of different ages, among united or married persons of both sexes, abstractedly considered, still, it does not express the totality of procreative power, which we have termed the Connubial Absolute Power. This must depend on two other circumstances, first, the chance a person has of living through the succeeding ages; and secondly, of enjoying, in addition to his actual present fecundity, the fecundity appertaining to these succeeding ages.

Cyphers of Fecundity for 11 *years, ending* 1840.

Age of Wives.	Age of Husbands.						Age of Wives.	Age of Husbands.						Year.
	Und. 17	17 to 25	26 to 35	36 to 45	46 to 55	Abov. 55		Und. 17	17 to 25	26 to 35	36 to 45	46 to 55	Abov. 55	
Under 17	20	50	19	50	...	...	36 to 45	...	43	23	22	26	15	1840
	33	30	34	16	...	...		...	22	29	28	23	14	1839
	18	32	28	23	...	...		...	18	23	23	21	9	1838
	36	35	35	37	37	...		...	22	23	21	15	10	1837
	37	36	34	34	30	5		...	18	17	13	12	4	1836
	37	37	36	36	13	22		...	18	17	17	13	11	1835
	33	36	38	39	35	7		...	17	15	12	10	11	1834
	33	36	36	32	26	...		...	18	16	15	10	2	1833
	30	35	36	34	26	44		...	16	17	15	10	4	1832
	29	36	37	37	30	30		...	17	14	14	8	4	1831
	27	25	34	34	24	22		...	13	12	13	9	5	1830
17 to 25	40	44	47	44	35	20	46 to 55	...	50	20	...	3	8	1840
	21	43	45	46	43	42		...	16	6	4	6	...	1839
	35	42	44	43	40	25		...	17	8	8	4	1	1838
	37	41	43	42	37	41		...	...	5	7	4	...	1837
	37	41	42	41	34	30		...	...	15	3	4	...	1836
	43	40	41	39	36	22		...	...	13	1	6	2	1835
	35	39	40	38	35	26		...	58	6	8	4	2	1834
	32	39	40	37	27	22		...	4	5	5	2	...	1833
	33	38	39	37	35	11		...	18	9	5	3	4	1832
	31	38	39	39	30	24		...	4	8	8	2	2	1831
	28	37	38	35	29	27		...	4	6	9	4	1	1830
26 to 35	...	45	48	42	28	22	Above 55	...	...	...	...	...	...	1840
	62	41	45	47	36	32		...	...	...	25	1	6	1839
	22	39	43	40	38	25		...	...	...	...	8	3	1838
	35	38	43	39	33	28		...	...	...	...	...	...	1837
	40	36	42	34	31	26		...	...	...	...	...	...	1836
	22	36	40	34	26	22		...	...	...	...	...	2	1835
	27	35	40	32	27	19		...	...	...	...	...	7	1834
	27	34	40	33	26	19		...	...	...	8	...	2	1833
	23	33	39	30	26	7		...	...	...	...	...	4	1832
	23	32	39	34	24	14		...	...	...	...	3	9	1831
	29	30	38	27	23	13		...	...	...	...	...	...	1830

Both these conditions are regulated by his expectancy of life. The chance of living, should, therefore, also be taken in consideration, which will have the effect of raising, considerably, the numbers expressing physiological procreative power. The difference of this increase, is what we have before termed *Expectant Power*, and must be added to the connubial physiological, to give the connubial absolute power.

In drawing out this table, we have made use of the Carlisle Life Table, both because it is universally known, and because, even in these controversial times, it is very generally admitted to be good. It has the inconvenience of uniting the sexes; but, on the other hand, any inaccuracy hereby introduced, can scarcely much affect the result, and certainly not interfere with its *practical* utility.

It was necessary, however, to assume, in the calculations involved, first, that for so few a number of succeeding ages as ten, the procreative power increases or decreases, uniformly with the average rate between these limits; and secondly, that the same proposition was true, with regard to expectancy of life.

TABLE OF UNITED, OR CONNUBIAL PHYSIOLOGICAL PROCREATIVE POWER.[1]

Maximum Age, Males 33·94 ; *Females* 26·07 ; *Maximum Ordinate* 50.

Age of Wives.	Age of Husbands.																									
	16	17	18-19	20—1	22—3	24—5	26—7	28—9	30—1	32—3	34—5	36—7	38—9	40—1	42—3	44—5	46—7	48—9	50—1	52—3	54—5	56—7	58—9	60—1	62—3	64—5	66
16	40	44	48	52	56	57	57	58	59	56	54	51	48	46	40	34	28	22	16	13	11	9	7	4	2	0	0
17	42	52	54	54	59	64	65	66	67	68	66	63	59	56	54	49	46	42	38	34	24	14	12	8	4	0	0
18—19	45	53	55	56	62	67	72	73	74	75	74	71	66	65	64	62	57	53	48	44	40	28	17	12	7	0	0
20—21	50	56	57	58	66	70	75	80	94	95	94	90	89	88	84	73	72	71	70	63	56	50	35	20	9	0	0
22—23	52	62	64	66	68	74	80	86	95	96	95	93	90	88	86	76	76	76	76	76	72	59	46	33	10	0	0
24—25	54	63	74	75	76	78	83	88	96	97	98	97	93	89	84	76	75	72	70	68	66	61	52	44	23	0	0
26—27	56	64	71	77	80	82	84	89	97	100	97	96	92	87	83	78	74	70	69	66	63	58	51	43	22	0	0
28—29	58	66	72	79	84	86	88	90	97	97	95	92	90	86	82	76	72	68	62	59	56	53	50	42	21	0	0
30—31	60	66	72	77	82	85	87	91	96	92	90	88	86	84	81	74	68	60	54	52	49	46	43	40	20	0	0
32—33	55	62	65	69	73	72	75	79	82	86	86	85	83	81	80	70	63	56	49	42	40	35	30	25	20	0	0
34—35	50	52	56	61	65	70	66	69	72	76	80	77	73	70	67	64	62	54	46	40	38	33	28	23	12	0	0
36—37	45	46	48	50	56	61	67	64	67	70	73	76	72	69	66	63	60	52	44	38	32	26	24	22	11	0	0
38—39	40	41	42	45	49	53	58	63	62	63	64	66	68	64	60	57	54	50	42	37	29	25	22	21	10	0	0
40—41	35	36	37	38	42	46	51	55	60	60	59	58	57	56	53	50	46	43	40	36	26	24	21	20	9	0	0
42—43	30	31	32	33	34	36	38	41	43	46	46	45	44	43	42	40	39	38	36	34	23	21	18	14	10	0	0
44—45	24	25	26	28	30	32	33	34	35	36	37	36	34	33	32	30	28	26	24	22	20	17	15	8	4	0	0
46—47	19	20	21	23	25	27	29	30	30	31	32	28	28	27	27	26	26	24	22	20	18	16	14	8	4	0	0
48—49	14	15	16	17	19	22	25	27	28	29	28	26	24	24	23	22	21	20	19	18	17	15	14	7	3	0	0
50—51	8	9	10	11	13	16	19	21	24	25	26	24	21	18	18	17	16	15	14	12	12	10	8	6	2	0	0
52—53	3	5	6	7	8	8	10	12	14	16	17	17	16	15	14	14	13	12	11	10	9	8	4	2	0	0	0
54—55	1	2	2	3	3	4	4	6	8	10	12	11	10	9	8	7	7	7	6	6	6	4	2	1	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

[1] The numbers represent twice the average number of children born to 100 couples, taking 100 as the maximum.

As regards the first supposition, it is, strictly speaking, not quite correct; but as the data, from which we have deduced the table of connubial or united power, are also imperfect, it is needless to make a more strict supposition in this case, lest we might lay ourselves open to the charge of pretending to accuracy which does not exist: because, as before remarked, two sources of fallacy cooperate to vitiate the result. Secondly, upon looking at the Carlisle table, it is found that the method of the straight line does not differ very much from the truth, for small periods, as exhibited in that table. If the straight line were accurately true, for any period of years, the same number of persons would die in that period every year. On looking at the table, this is found to be pretty nearly the case for periods of 10 years. Indeed, in the Northampton tables, of Mr. Price, this was so remarkably true, that (in 26 Geo. III., chap. 52) they were selected by Act of Parliament for estimating the legacy duty; and these tables were, and are now, almost universally used by the Life Assurance Offices.

In this manner, it was thought, an approximation, sufficiently near the truth, for all practical purposes, would be obtained. Indeed, on examining our data, it is doubtful if any other plan could have been adopted:

ABSOLUTE EXCONNUBIAL PROCREATIVE POWER.

The Absolute Exconnubial Procreative Power of any person, is his chance of bringing his dormant power into action. This may be realized in two ways; first, by the criminal connexion of the sexes, as in the production of illegitimate children; secondly, by the chance of a given person living long enough to marry, and thus begetting children.

The first of these, is the practical power of any unmarried person. To include, however, in the absolute power, this practical power, requires data which we do not possess. Tables should be given of the number of illegitimate children born during each period, as we have in the case of married persons, with the ages of both parents; and then, by drawing the proportion between these number of children, and the number of unmarried and widowed persons within procreative ages, we should obtain a cypher for this fecundity, which, though small as compared with that of married persons (since, for parents of all ages, the legitimate are to the illegitimate, as 16 to 1), might yet be appreciated, and by addition to this expectant exconnubial power, at once give the absolute exconnubial power.

In the absence of the data required, this practical power must be completely overlooked. While, therefore, we retain the term absolute exconnubial power, for convenience, it should be borne in mind, that this expression is incorrect, and that, in the totality given, the practical power having been omitted, the results are smaller than they should be in reality.

The second way in which a person may realize his dormant power, is by marrying in any one of the subsequent years of his life, and thus becoming possessed of connubial absolute power. The chance, therefore, of his obtaining this power, must be the measure of his fecundity. Take the case of a male. As his chance will be different for every year, so we must consider each year separately. In any one of these.

TABLE OF CONNUBIAL ABSOLUTE POWER.

(The totality of Physiological, Expectant, and Practical Procreative Powers.)

Age of Wives.	Age of Husbands.																											
	16	17	18-19	20—1	22—3	24—5	26—7	28—9	30—1	32—3	34—5	36—7	38—9	40—1	42—3	44—5	46—7	48—9	50—1	52—3	54—5	56—7	58—9	60—1	62—3	64—5	66
16	1664	1658	1652	1646	1640	1635	1528	1421	1314	1207	1100	994	947	901	854	808	762	597	432	267	102	81	61	40	20	10	0
17	1546	1658	1641	1624	1610	1627	1544	1502	1360	1219	1120	1030	949	884	838	791	742	594	445	296	194	92	89	47	25	12	0
18—19	1428	1533	1639	1580	1552	1577	1602	1628	1436	1245	1150	1054	958	862	806	759	708	650	541	352	262	172	117	55	30	15	0
20—21	1310	1386	1451	1537	1543	1549	1555	1563	1462	1270	1170	1072	973	874	775	723	672	614	557	408	314	230	146	62	36	18	0
22—23	1292	1328	1364	1400	1408	1416	1424	1432	1324	1296	1187	1078	969	860	751	687	636	593	550	464	336	288	208	80	42	21	0
24—25	1084	1133	1193	1252	1312	1334	1303	1272	1209	1209	1130	1028	927	826	725	662	600	544	487	431	371	280	189	98	59	20	0
26—27	955	1041	1090	1139	1188	1210	1233	1129	1125	1121	1012	1004	903	802	701	662	564	509	453	398	338	278	197	116	77	39	0
28—29	837	917	1008	1036	1064	1075	1087	1109	1071	1033	981	929	878	776	673	618	552	476	421	366	318	269	221	132	88	44	0
30—31	718	782	846	911	940	954	967	981	995	945	896	848	800	752	650	584	519	453	388	333	291	249	207	166	99	49	0
32—33	600	654	708	762	816	824	832	840	849	858	810	764	718	672	626	561	496	431	366	301	262	224	185	147	111	57	0
34—35	482	540	598	656	714	720	729	738	748	757	721	680	640	601	561	500	444	388	331	275	213	185	157	129	92	55	0
36—37	396	451	471	492	613	619	625	633	641	658	621	584	554	525	496	457	418	359	299	249	187	126	133	111	74	37	0
38—39	311	366	422	467	512	518	524	530	544	559	521	484	447	439	432	406	368	336	284	223	184	143	101	93	62	31	0
40—41	225	272	349	366	411	419	428	436	445	460	438	417	396	375	367	338	310	282	254	197	163	130	96	75	56	29	0
42—43	140	182	225	267	310	320	330	340	350	361	349	337	326	314	303	276	250	224	198	172	145	119	92	66	50	27	0
44—45	109	116	159	202	246	254	266	278	290	303	276	267	258	248	241	232	204	176	147	118	90	78	66	55	40	25	0
46—47	77	86	95	139	183	190	198	214	230	245	213	192	186	179	172	167	161	143	126	107	90	72	59	46	30	15	0
48—49	45	56	67	78	120	127	134	142	164	187	160	134	108	104	100	97	93	90	82	75	68	61	54	35	23	11	0
50—51	14	24	35	46	57	69	81	93	106	129	117	105	93	81	78	75	72	70	67	59	50	42	34	26	17	9	0
52—53	5	7	17	28	38	39	47	55	63	71	67	64	60	57	54	52	50	48	46	45	39	33	28	23	14	6	0
54—55	2	3	5	12	19	22	25	28	31	35	34	32	31	29	28	27	26	25	24	23	22	17	12	8	4	2	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

The numbers here given, divided by 200, will give the number of children any couple, on the average, may be expected to get.

a male may marry a female of any age; his power, then, depending upon this, may be found by taking the chance of his marrying a wife of any age in a given year, and multiplying by his absolute connubial power, if he did so marry. The sum of these results gives his procreative power, depending on the chance of his marrying that year. Repeating this process for every succeeding year (or period of years) of his life, and taking into account his chance of life, the sum of these results will be his absolute exconnubial power for that year or period of years.

By the Irish Marriage Tables, these may be found for the years 16, 21, 31, 41, 61; and by taking proportional parts for the intervals, the tables may be calculated.

It should be, moreover, borne in mind, that as children have, necessarily, the chance of attaining procreative and marriageable ages, so have they also an amount of exconnubial absolute power. It is small, it is true, but still not to be neglected.

Taking these several circumstances into consideration, the following table was calculated.

Table of Exconnubial Absolute Procreative Power.[1]

Age.	Males.	Females.	Age.	Males.	Females.	Age.	Males.	Females.
0— 1	498	366	22—23	664	451	44—45	41	6
2— 3	611	445	24—25	557	394	46—47	37	5
4— 5	660	480	26—27	450	337	48—49	33	3
6— 7	700	510	28—29	343	279	50—51	30	2
8— 9	710	520	30—31	236	222	52—53	26	·01
10—11	728	530	32—33	129	165	54—55	24	.005
12—13	733	534	34—35	112	134	56—57	22	...
14—15	742	540	36—37	96	102	58—59	21	...
16—17	741	538	38—39	79	71	60—61	19	...
18—19	713	505	40—41	62	39	62—63	18	...
20—21	688	478	42—43	45	8	64—65	9	...
						66	...	...

The preceding investigation would enable us to give an opinion on several most important probabilities connected with our social relations in life. Two only, however, will here be noted. If a party presented himself before us, as being very desirous of offspring, we would be enabled to tell him, in relation to his own age, what ought to be the age of the partner to be selected, which would promise best for the gratification of this wish. In like manner, many other prudential considerations in social life might hereby be more certainly assured. It is to emigration societies, and governments, however, that tables, setting forth the procreative power for the various ages, prove most valuable. To the former, if the benefit and increase of the population in the colony be the chief desire, these tables at once explain at what ages persons should be sent out. To the latter, they designate those agents, who, as most active in the increase of an over-crowded population, should be removed.

If we are not misinformed, the principle adopted by emigration societies, is to send out no parties free of expense above twenty-five years old; and generally, they encourage persons of or about this age to

[1] The numbers here given, divided by 200, will give the number of children each person on the average may be expected to have.

emigrate. This plan may be correct, if the parties be already active procreative agents, or married persons; because they are very near the maximum age of fecundity, and, besides their bodily strength being greatest in and about these ages, these persons are more likely to be useful members in the colony: but if they be unmarried, and due regard be also paid to the future prospects of these persons, and to the increase of population in the colony, the value of such persons is not so great as that of children between two and three years old. This assertion may appear a startling one; yet it is borne out fully by the table of exconnubial absolute power before given.

These tables would, indeed, seem to point out the advantages to be derived in sending out persons upon the principle of a sliding scale; parties between twelve and seventeen being sent out free, and those either below or above these ages being charged at a rate proportional to their procreating value. In like manner, it explains the advantage there would be in sending out married persons at a cheaper rate than the unmarried, etc. The government, in seconding such a movement, would contribute powerfully towards ameliorating the condition of thousands, whose distressed social condition calls for such heavy taxation on the middling and wealthier classes of the community, and who, as the most active procreative agents (for who are more so than the poor?) promise tens of thousands more in equal misery, which the coming generations will have hereafter to support. All these persons, if removed and transferred to the colony, would not only benefit themselves, and assist towards the development of its resources, but likewise do great good to our own country, by consuming many of our useless manufactures, and checking, by their absence, the impetus of population at home.

The discussion, however, of this question, does not immediately concern us at present; though, as illustrative of the importance of the present inquiry, the digression may be excused.

The preceding investigation has necessarily occupied much labour and time. As it will be evident, our chief difficulty has been the imperfect nature of our data; yet is it a question that could, with proper data, be made most easy of solution.

First, as regards public or state documents.

1. If, in the population returns, there were tables, in which the exact age of parties marrying were separately given for every year, these results, when equated, would at once enable us to form another table for the expectancy of marriage for both sexes.

2. If in the registry of births, due note were made of the exact age of the parents, the legitimate being distinguished from the illegitimate children, a table of exconnubial and connubial practical power could be easily made out, and the maximum age of fecundity for both sexes at once determined.

3. The number of married, unmarried, and widowed, for every separate year, should be given.

4. In the Criminal Tables, the offences arising from sexual desire, throughout the country, should be given also for every year. This would also lead to the determination of the age of greatest procreative power.

Secondly, as to the collection of tables from private sources. There

are many of the greatest value, which medical men alone would be competent to provide.

1. The age at which puberty appears in a male. Hitherto no tables showing this have been made.

2. More extended tables of the date of the disappearance of the catamenial function in the female; distinguishing, in those cases where it has persisted late through life, whether the discharge *per vaginam* be or be not connected with uterine disease.

3. In the records of obstetric practice, more especially in hospitals and dispensaries, where patients present themselves for lying-in letters, and births or miscarriages occur, to note not only the age of the mother, as is almost invariably done, but also the age of the father.

These data given, the limits of the procreative ages, and the ages of greatest fecundity, could be very easily deduced.

In the absence of these data, our conclusions are less certain; yet, so far as the results above given go, the following General Conclusions may be drawn.

1. The age of greatest fecundity in males is from thirty-one to thirty-three, in females twenty-six.

2. But the procreative value of a person between fifteen and sixteen, is greater than at any preceding or succeeding age.

3. The ages at which most marriages occur, are about the same as the ages of greatest fecundity. Thus in the Irish marriage tables, in which only the proportion to unmarried and widowed could be drawn, the ages were, thirty-two for males, twenty-six for females.

4. There is, very probably, a relation between procreative power, and marriages taking place, at all ages.

5. Sexual desire and fecundity, appear to have also about the same maximum age, and bear a relation generally one to another. The English table gives a mean of twenty-eight for persons. The Irish twenty eight; the Scotch twenty-nine for males—both twenty-six for females. The fecundity for persons, according to the Irish, is also twenty-nine

6. And lastly. The earliest and latest limits of procreative power are sixteen and sixty-six for males, fifteen and fifty-five for females.

Such are the results which the preceding inquiry has brought out. It should be borne in mind, that perfect accuracy with our data was impossible. We have, therefore, endeavoured only to treat the question in its practical bearings; and in this view we venture to offer it to the profession. Hereafter, if better data be afforded, we may be more fortunate, or others may bring out more correct results. For the present, however, if we have contributed in the least towards the elucidation of this question, we must be satisfied.

19, Dorset Square, January 1850.

ON THE ADMINISTRATION OF CHLOROFORM IN MIDWIFERY, AND AS A SEDATIVE OF UTERINE PAIN GENERALLY.

By J. HENRY BENNET, M.D., Physician-Accoucheur to the Western General Dispensary, etc.

In February 1848, I published, in the *Lancet*, the result of my experience respecting the administration of Chloroform in irregular and operative labour, in dysmenorrhœa, and in uterine pain generally; and on that occasion I stated that it had proved, in my hands, a most valuable therapeutic agent. During the two years which have since elapsed, I have been constantly in the habit of administering Chloroform in these varied conditions, and am able to confirm, in every respect, the statements which I then made; no single event having occurred in my practice, calculated to modify the opinion which I then expressed, respecting its great practical value to the accoucheur and to the uterine pathologist.

Various fatal cases, however, have been since published, in which death was so evidently the result of the employment of Chloroform, that we cannot but admit its inhalation to be attended with a certain amount of risk. That this risk is very slight indeed, is proved by the very small number of fatal cases recorded, as compared with the innumerable instances in which it has been administered for surgical purposes; and by the fact that, in many large hospitals in London and Paris, it has been given, ever since its first introduction, in all cases of operation, to the full anæsthetic extent, without any untoward event having been observed. Such being the case, I do not think that the fatal instances that have occurred, imply such an amount of danger as to induce us to forego the benefit of Chloroform, when it is likely to be therapeutically useful, or when its inhalation will save a patient from the pain of an operation; or even to refuse our sanction to its inhalation in a *slight* operation, if the patient shrink from any pain, and is willing to incur the very trifling risk attached to its administration. The very greatest care, however, ought clearly to be shown, and I cannot too decidedly urge the precaution on which I laid so much stress two years ago,—viz, that of seeing that the Chloroform vapour is mixed with a sufficient quantity of atmospheric air for the purposes of respiration; so that, on the one hand, asphyxia may not be produced; and that, on the other, the sedative effect of the Chloroform on the nervous centres may take place gradually, so that the latter may not be instantaneously paralysed by the *sudden* presence of a large quantity of Chloroform in the system. It is for this reason that, like Dr. Simpson, I generally prefer, for inhaling, a thin cambric handkerchief, to the various inhalers now in use. The former appears to me to admit more easily of gradual, progressive chloroformization. Extreme caution in the first stage of inhalation is the more necessary, as, in most of the cases of death from Chloroform that have been recorded, it seems to have taken place after a few inhalations only, and from a quantity of Chloroform, which appears incredibly small (half a drachm, or a drachm) to

those who are in the habit of using it, who continually find it necessary to give four or five times that amount, in order to produce complete anæsthesia.

Within the last eighteen months, I have myself taken Chloroform to the full surgical extent, on three occasions, with perfect success: twice for dental operations, and once for the extirpation, by Mr. Fergusson, of a fatty tumour from the shoulder. On each of these occasions, but especially on the two first, when a less perfect inhaler was used, I distinctly and painfully felt the sense of suffocation occasioned by the absence of a due supply of atmospheric air. This error is the more dangerous, as all sense of the wants of the economy is lost as soon as anæsthesia commences, and the patient may then be asphyxiated by the absence of oxygen, without any sense of suffocation being experienced or manifested.

I still administer Chloroform in four classes of cases. I. In Irregular but Natural Labour. II. In Operative Labour. III. To facilitate Operations on the Uterus. IV. To subdue Uterine Pain in dysmenorrhœa, etc.

I. In Natural Labour, I seldom resort to the inhalation of Chloroform, unless it be occasionally to facilitate its last stage, or to allay some morbid conditions of the nervous and circulatory systems, which may be interfering with the progress of parturition. The pains of labour are sometimes partially arrested, diminished, or rendered irregular and inefficient, by fear, impatience, want of self-control, or by long-continued suffering. When this is the case, Chloroform generally exercises an all-but-magical effect. Under its influence, all nervous excitement is soothed, the pains gradually become more regular, powerful, and efficient, and the labour once more progresses normally. This return of the labour pains, and their regularization under the calming influence exercised by Chloroform on the brain, probably explains the increase in their intensity, noticed by some writers, on its first administration; and thus is explained the apparent discrepancy of different observers, on which so much stress is laid by the opponents to Chloroform. If the pains are arrested or modified by nervous reaction, they return; if, on the contrary, they are too violent and prolonged, as is sometimes the case in the latter stages of parturition, when the soft parts are rigid and irritable, the intensity of the pains diminishes on the withdrawal of the excess of stimulation.

The disordered state of the circulation, and the congested condition of the capillaries, which are often observed in the cases to which I have alluded, also give way, in a most remarkable manner, to the calm produced by the inhalation of Chloroform. This is so much the case, that since I have had recourse to it, I have never found it necessary to bleed from the arm during labour; the inhalation of Chloroform having always been indirectly efficacious; even in some cases in which the cephalic congestion was so great as to make me fear convulsions.

Although I never hesitate, as will be perceived by the above remarks, to give Chloroform in natural labour, whenever I think it may be of use, I do not urge my patients to take it, merely as a remedy for pain. If they wish to avoid the pangs of parturition, and are anxious to inhale Chloroform (as I most certainly should, in their condition), I do not object to its administration. Firmly believing its careful inha-

lation to be innocuous in parturient women, I do not see how I can object; but I never press them to resort to it, not feeling called upon to interfere with a natural function, even to allay pain, if my patient be willing and able to bear it.

II. In Operative Midwifery, I continue to derive valuable assistance from Chloroform. The cases in which I have resorted to its use, have been, exclusively, turning and retained placenta. In consultation and dispensary practice, the accoucheur occasionally meets with instances, in which the placenta has been retained for some hours, before he sees the patient. In these, and in the more difficult forms of turning, Chloroform very much simplifies the operation, by rendering the patient unconscious of pain, and perhaps by slightly relaxing the rigidly-contracted uterus. In craniotomy, the pain inflicted on the mother is generally so slight, and the duration of the operation is often so prolonged, that the inhalation of Chloroform is scarcely, if at all, indicated. As I am also one of those accoucheurs who very seldom find the application of the forceps necessary, or even warranted, I have scarcely had an opportunity of judging as to the advisability of placing the patient under the influence of Chloroform, prior to their use. I should, however, feel inclined to give a negative opinion, as either the maternal parts are sufficiently roomy to admit of their application without pain, or they are not; and, in the latter case, the danger of injury to the mother would only be increased by her unconsciousness.

I have only once had to contend with post-partum hæmorrhage, after the administration of Chloroform, during or after labour; and in the case in question, the patient, the wife of a medical practitioner, was labouring under disease of the heart, unknown either to her husband or to myself. Her history is interesting in a scientific point of view, but very melancholy. She was a young, delicate, lymphatic female, twenty-three years of age; and I was called to her by her husband (August 1848), in the early stage of her first labour, owing to severe hæmorrhage having occurred. I detected a partial placenta presentation, and arrested the hæmorrhage by rupturing the membranes. The labour progressed favourably, but was rather tedious and painful during its latter stage, owing to the resistance and narrowness of the soft parts.

Under these circumstances, and with the entire approbation of the husband, she inhaled Chloroform, at intervals, for about an hour. Parturition was thus easily accomplished; and the placenta was expelled within a few minutes. The uterus contracted, the uterine bandage was properly applied, and all seemed to be going on normally, when, about ten minutes later, as I was washing my hands at the bed-side, I perceived, on looking at the patient, from the paleness of the lips and face, that hæmorrhage was probably taking place. I immediately unfastened the bandage, and, finding the uterus redilated, at once introduced the hand into its cavity, and found it filling with blood. With the left hand placed externally on the abdomen, I manipulated the uterus, to arouse its contractions; and, having passed the tube of an enema syringe, which was fortunately at hand, into the uterine cavity, freely injected cold water for some minutes. Under the influence of these means, the uterus contracted firmly on my hand, which I withdrew gradually, and no further hæmorrhage took place. I subse-

quently paid more than usual attention to this lady, as puerperal fever was then reigning epidemically; and I was fearful, lest the kneading of the uterus, to which I had been obliged to resort, might be followed by inflammatory reaction. Nothing of the sort, however, occurred: and all continued to progress favourably until the twelfth day, when she had an attack of indigestion, followed by fever, after taking a small quantity of animal food for the first time. She soon recovered, and appeared to be progressing so favourably, that, a few days later, I left her entirely to her husband's care. On the twenty-first day after her confinement, she again tried, in the afternoon, for the second time, animal food—a mutton chop; and, although she subsequently complained of considerable pain in the region of the stomach, she was cheerful and talkative during the evening. At eleven, her husband went into an adjoining room for a few minutes, but hearing a noise of choking, rushed to his wife's bed, and found her sitting up and gasping for breath. In less than a minute, she died in his arms, without having been able to utter a word. A careful *post-mortem* examination was made by my friend Mr. Avery and myself; but no morbid condition of any description was found in any region of the body, with the exception of the heart. This organ was enlarged, its cavities were dilated, and its walls softened. The uterus was perfectly healthy, and of a natural size.

In this case, death appears to have been the result of syncope occurring, under the immediate influence of laborious digestion, in a naturally delicate female, weakened by loss of blood, and labouring under dilatation of the cavities of the heart. It is well known to pathologists, that syncope is often attended with a fatal result, in softening and morbid dilatation of the heart. Indeed, in such cases, it is dangerous to bleed from the arm, to any great extent, lest fatal syncope should ensue, from the inability of the diseased and weakened heart to contract on the mass of blood which chokes its cavities.

The hæmorrhage which occurred after delivery, although not very considerable (for it was at once arrested), no doubt contributed to the subsequent fatal result, by increasing the debility of the patient: but that hæmorrhage can in no way be attributed to the use of the Chloroform. Post-partum hæmorrhage is one of the common accidents of midwifery, which every practical accoucheur meets with in women who have never taken Chloroform, and there is no evidence to prove that it is more frequent in those who have inhaled it. My own experience goes directly to negative such a proposition. This case is the only Chloroform one in which I have seen it, during the three years that I have administered the agent; whereas I have, during that time, been repeatedly called to cases in which it has occurred in patients, who had never inhaled Chloroform.

Moreover, females who labour under disease of the heart, are peculiarly liable to hæmorrhage after delivery. I recollect a remarkable illustration of this fact, which occurred in my wards, whilst I was *Interne* at the hospital of La Pitié, Paris. A woman, aged 34, multiparous, who was under treatment for heart disease (mitral insufficiency, hypertrophy, and dilatation), was found to be pregnant, and was consequently retained in the hospital for her confinement. One morning I left her

in perfect health, at ten o'clock A.M., and found her dead on my return, at four P.M. Labour had come on, and the child and placenta were expelled in a few hours; but, immediately after the expulsion of the placenta, irrestrainable hæmorrhage followed, and she died in a few minutes. The congested state of the venous system, and especially of the portal veins, explains this tendency to uterine hæmorrhage, in females in whom the circulation is impeded by insufficient heart-action.

I would here remark, that there is a very unphilosophical tendency in the opponents of Chloroform, to attribute any accident that may occur to parturient females, to whom it is administered, to the action of Chloroform, as if a certain proportion of accidents did not occur in midwifery practice, whether Chloroform be used or not. Thus I have heard it argued, that Chloroform may lead to puerperal mania, because Dr. Webster stated, at the Westminster Society, when Dr. Murphy's valuable paper on Chloroform was read,[1] that he had seen three cases of puerperal mania, at Bethlem Hospital, in which Chloroform had been administered. The question is, whether these females would not have been equally seized with puerperal mania had they not taken Chloroform? If it could be shewn, that since the use of Chloroform in midwifery had become more frequent, the annual number of cases of puerperal mania received at this hospital had very greatly increased, the argument would then be valid: but in the form in which Dr. Webster notices the fact, it is altogether valueless.

When administering Chloroform in simple midwifery, I never give it to such an extent as to annihilate pain, but merely so as to allay or deaden it; in a word, I do not attempt to render the patient totally unconscious of her sufferings, but merely to render them bearable. In operative midwifery, the anæsthesia must necessarily be pushed further, that is, to the surgical extent, as the intention is then both to render the patient unconscious of what is done, and to obtain the muscular relaxation to which this stage of anæsthesia gives rise.

III. In Uterine Examinations and Operations, Chloroform is occasionally very useful to me; though, as a rule, no instrumental examination of the uterus need be painful, if an instrument proportioned to the degree of dilatability of the vaginal orifice be used, and proper gentleness be observed. There are cases, however, in which the fears of the patient are so great, that the use of Chloroform may be desirable; there also cases in which the uterus, its neck, and even the vagina, are the seat of such intense neuralgic sensibility, that interference of any kind is all but impossible, unless the patient be under the influence of Chloroform.

I have now under my care a case of this kind, a married lady, aged 26, who for the last four years has been a martyr to neuralgia of the most intense and agonising description. The neuralgic affection has occupied principally the branches of the fifth pair, the nerves of the uterus, and occasionally those of other parts of the body, and has evidently been connected all along with extensive ulcerative disease of the cervix uteri. The uterine disease appears to have followed an abortion some years ago, and had been totally overlooked until she consulted me. The

[1] See London Journal of Medicine, vol. for 1849, p. 1084, 1170, for the discussion on, and an abstract of, Dr. Murphy's essay: vide also vol. for 1850, p. 90.

entire pharmacopœia had been ransacked, and the most powerful sedatives had been administered for years, without any favourable result. A careful digital examination of the uterus having brought on a frightful neuralgic attack which lasted a fortnight, I determined to put her under the influence of Chloroform, and thus was able to bring to light a very extensive ulceration of the cervix. This organ was lacerated, and the seat of great inflammatory enlargement. I have now given this lady Chloroform to the full surgical extent for fourteen consecutive weeks, that is fourteen times, and she has seldom taken less than half an ounce on a handkerchief, and sometimes more. I was very unwilling thus to continue its administration; but, until within the last week or two, she has never been able to bear the slightest interference whilst conscious, not even an injection of warm water. The disease, however, is now all but cured, and the morbid sensitiveness is fast disappearing. She has had no regular neuralgic attack for the last two months, and will evidently get quite well, both of the local disease and of the neuralgia which it occasioned. I have not been able to discover, in this patient's mental or general state, any detrimental effect whatever from this lengthened administration of Chloroform. It occasionally gives rise to sickness, but that is all: nor does there appear to be any difference in her subsequent condition, whether she have taken much or little; the quantity inhaled in order to produce the same anæsthetic effect varies, without our being able to discover the cause. Sometimes she becomes insensible after a couple of minutes' inhalation; sometimes after eight or ten only. This case appears to me to prove the general innocuity of Chloroform, even when taken in large doses and for a continuance. The last time it was administered, it was for the application of leeches to bring on menstruation, or to supply its deficiency, the menses being delayed to her great distress; and although she was kept under its influence for half-an-hour, there was even less subsequent distress from sickness than usual.

IV. In Uterine Pain from dysmenorrhœa, cauterisation, or from any other cause, Chloroform continues to prove, in my hands, a valuable medicinal agent, either when given by inhalation, or internally as a medicine. It is, however, capricious in its action, and not to be depended upon in every case, especially when administered internally; its virtues as a sedative of pain are also much more decided when inhaled than when taken. The most propitious moment for inhalation with this view, but the most inconvenient to the medical practitioner, is at bed-time; it will often insure freedom from pain, and a night's rest, when every thing else fails. For this effect to be obtained, however, the patient must remain perfectly quiet on recovering consciousness; and this is the reason that night is so much preferable to day for inhalation. If the patient who has inhaled Chloroform be once thoroughly roused, the sedative effect frequently passes away.

When given internally, twenty, thirty, or forty minims of Chloroform should be mixed with mucilage, or with the yolk of an egg, previous to water being added, so as to be held in suspension. If a little camphor be added to the Chloroform, which soon dissolves it, the solution will also mingle with water.

Chloroform may be injected into the rectum in any of these shapes, and if it be retained, its sedative effect is effectually produced; the rectal

mucous membrane, however, is so extremely sensitive, that it generally contracts, and expels the fluid containing the Chloroform.

In conclusion, I consider that my experience of Chloroform during the last two years, as likewise the published experience of others on the subject during that time, fully corroborates the opinions I formerly advanced respecting its great value, not merely as a means of lessening pain, but as a therapeutic remedy in connexion with its anæsthetic powers. I must also remark, that all that has been written against its cautious and exceptional use in midwifery, has been written by persons who had not used it, or at least not sufficiently to entitle them to give an opinion on the subject. Indeed, they appear merely to sustain a "thesis" founded on prejudice, and not to reason from their own experience.

At the same time, although thus supporting the use of Chloroform, I feel bound to repeat, that the fatal cases which have been published prove that its inhalation is not *altogether* free from danger to life. Neither does it appear that this danger can be avoided by the greatest caution; death having followed, as I have already stated, the administration of an insignificant dose in the hands of experienced practitioners. It would indeed seem as if, in the cases to which I allude, Chloroform had acted as a deadly poison from the first moment of inhalation. These cases must, therefore, teach us not to resort to it without a good and sufficient reason, and not to urge it on unwilling patients. For my own part, I am perfectly prepared in my own person, again to run the risk, such as it is, should I be again called upon to suffer a painful operation; and, consequently, I feel no hesitation in giving it to any one else who, like myself, may wish to avoid pain at a very trifling risk.

We must not forget, however, that the dangers of Chloroform inhalation have only been exemplified in surgical cases, and that no parturient woman has died during, or from its administration. They are, in reality, less exposed than surgical patients, as anæsthesia need not be carried so far; moreover, the entire economy is during labour in such an increased state of stimulation, that the vitality of the patient would, I think, be much less easily subdued, than in one who is depressed by the dread of a surgical operation.

9, Cambridge Square, Hyde Park,
January 1850.

BIBLIOGRAPHICAL RECORD.

RATIONAL MEDICINE: A VINDICATION. The Address delivered at the opening of the New School of Medicine, Surgeons' Hall, Edinburgh, November 6, 1849. By ALEXANDER WOOD, M.D., Fellow and Member of Council of the Royal College of Physicians of Edinburgh. pp. 88. Edinburgh: 1849.

We very cordially recommend this address to the notice of our readers. It is alike admirable in design and in execution, and we do not know any similar production which we could, with more satisfaction, place in the hands of the student. It has become the fashion with many, to speak in slighting terms of the appliances of our art; to represent cures as mere accidents, rather than the consequents of treatment; and, thus to encourage a spirit of sneering incredulity, which is, of all states of mind, the most unlikely to conduce to steady perseverance, and hopeful study. The little work before us will serve as an admirable antidote to such paralysing poison.

"Medicine," says Dr. Wood, "is at once a science and an art. But, as a living philosopher observes, 'Art is the application of knowledge to a practical end. If the knowledge be merely accumulated experience, the art is empirical; but if it be experience reasoned upon, and brought under general principles, it assumes a higher character, and becomes a scientific art.' (HERSCHEL.) This, then, is the great question we have to solve. Is our art really, as our enemies would fain represent it, a chaotic mass, without form and void,—where there is no general principle to guide, and no scientific rule to follow? or can we, on taking an impartial survey, really conclude, that, notwithstanding the numerous errors that have marred it, and the numerous imperfections that yet cling to it, there is still in it so much of truth as to bid us strive, amidst our imperfect knowledge, after that which is more full?"

Dr. Wood's object is to prove that the latter question must be answered in the affirmative: and this he does, not by slurring over the difficulties which beset the truthful inquirer, nor by denying the existence of many a broken link in the chain of our system; but by showing, that in the treatment of disease, there are certain fixed principles which serve as trustworthy guides—by demonstrating that, in the scientific choice of remedies, the philosophical practitioner is really influenced by the known conditions and necessities of the disordered economy. "It is in this," he observes, "that the true philosophy of the healing art consists. We must know that power which has become perverted; ascertain in what the perversion consists; endeavour to discover and remove the causes which have produced it; and, if the removal of these do not issue in the return of natural action, have recourse to means which may assist it so to do."

As an example, we quote his analysis of the treatment of inflammation. "If agreement among physicians, as to the plan of treatment to be pursued, were the test of the propriety of the practice adopted, assuredly we should not appeal to inflammation. One applies cold, another heat, to the part in which the disease is seated. One seeks to soothe it by emollient sedatives; another, to combat it by astringent stimulants. What a field for exultation to those, who delight to proclaim the uncertainty of medicine! How can practice so different be successful? If one is right, the other must assuredly be wrong. Such assertions, however, go no farther than to proclaim the ignorance of those who make them. In our management of disease, we possess few, if any specifics, which can directly destroy the morbid influence. We can only operate on it by modifying the vital force; and there are many agents, acting apparently in opposite ways, by which this purpose can be

effected. Thus, taking a very general view of the subject, we find that nervous irritation is usually the first step in the train of morbid phenomena exhibited by inflammation: and that it is followed by dilatation of the capillary vessels, with retarded motion of blood through them, and consequent increase in the quantity of the blood which they receive. Sooner or later, excitement of the heart supervenes, causing acceleration of the circulation throughout the body, and accompanied with changes in the character of the blood. Later still, we may have certain of the elements of the blood, or new products formed from it, deposited by those vessels in which the inflammation is seated. In endeavouring, then, so to regulate the vital force by which these derangements have been caused, as to lead the capillary vessels back to their normal state, it is evident, that respect must be had both to the stage at which the disease presents itself, and to the importance in the economy of the organ in which it is seated.

"If, for example, the morbid process have scarcely advanced further than the dilatation of the capillary vessels, then means may be employed to restore them to their normal state of tonicity. This may be done in two ways,—first, by allaying that nervous irritation from which the loss of tone first resulted, which may be effected by warmth, emollients, and other sedatives; or by exciting them to contract, by the use of astringents, or even of local stimulants. In the first case, the cause being removed, the effect spontaneously disappears. In the second case, means are employed to check the progress of the effect, irrespective altogether of the cause by which it was produced. The two classes of remedies which are thus employed, although apparently opposed in the way in which they act, may yet produce the same ultimate effect—operating, however, through different channels. The heat of the fire, which at first stimulated the nerves, and through them, produced inflammation of the tissue, may, if steadily applied, and longer continued, cure that inflammation which itself excited, by causing the disturbed capillaries to contract; or the apparently opposite remedy,—plunging the part in cold water,—will equally alleviate the disease. Seeming contradictions, certainly; but real contradictions only to those who refuse to study the vital laws.

"But, though one great object is to produce contraction of the capillary vessels, mere local treatment applied to them will not, in every case, suffice. The energetic action of the heart, forcibly propelling the blood into these vessels, acts by keeping them in a state of forced distension. By reducing the quantity of the circulating fluid, we remedy this in various ways; and hence the utility of bleeding in cases of acute inflammation. For, *first*, by removing some of the circulating fluid, we relieve the over distension at the affected part. *Second*, we diminish the blood, which is the normal stimulus of the heart, and thus weaken the force of the heart's action. *Third*, by withdrawing part of the blood from the brain, its susceptibility is diminished; and thus irritation is allayed, because the brain then less readily sympathises with the affected part, and also less powerfully stimulates the heart to increased action. *Fourth*, we cause an afflux of blood to the opening in the vein, and thus mechanically diminish the congestion at the seat of the disease. *Fifth*, we effect an alteration in the character of the circulating fluid, as is proved by the disappearance of the buffy coat of the blood after free bleeding in inflammation. There are certain medicinal agents also, although not so potent in their action, which produce similar effects. Tartar emetic, for example, at once diminishes the action of the heart, and causes contraction of the capillaries; and thus is entitled, perhaps, to rank next to bloodletting, in the treatment of inflammation. Saline substances, again, taken into the intestinal canal, withdraw water from the blood circulating in the adjacent vessels; and thus the quantity of that fluid is decreased, and its quality altered; hence they are largely used in the treatment of inflammation. Opium, again, diminishes the nervous sensibility, and thus removes

one element of the disease. There is no blind play in all this. The agents we have recourse to, have a determinate action ; and the determinate action of each is precisely suited to combat some one of the elements, of which this complex disease is formed."

In an appendix, Dr. Wood republishes, from the *Northern Journal of Medicine*, a review of Dr. Hastings' work on Naphtha, and a critique on the alleged mesmeric cure of Miss Martineau, both of which will repay perusal.

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1. Pathology of the Human Eye. By J. Dalrymple, F.R.C.S. Fasciculi III and IV. London : 1849.
2. A Treatise on the Inflammations of the Eye-ball. By Arthur Jacob, M.D., F.R.C.S. pp. 344. Dublin : 1849.

The promise of the early numbers of Mr. Dalrymple's work continues to be amply fulfilled.[1] The fidelity of the delineations of disease is only equalled by the exquisite beauty of the execution.

Part II presents us with excellent representations of the various Ulcerations, Tumours, and Warts, which have their seats in the eyelids, with diseases of the Lachrymal Apparatus, Ecchymosis of the Eye, and Scrofulous Ophthalmia. The figure 1, in plate VII, representing Ecchymosis, or a literally "blood-shot" eye, is admirable ; and the delicacy of execution of figures 5 and 6, in the same plate, is greatly to be commended.

Part III is devoted to Purulent Ophthalmia, as it appears in the infant and in the adult ; and that formidable malady is most truthfully depicted from its commencement, through its various stages, to the sad and hopeless conditions which but too often result, even when treatment has been judiciously applied. There are also two clever and striking representations of a very peculiar and very terrible disease—apparently of carbuncular character —which occurred in the practice of that very eminent ophthalmic surgeon, Mr. Wilde, of Dublin. It has never fallen to our lot to meet with such a case.

Part IV cannot be sufficiently commended. It renders us familiar with Inflammation of the Conjunctiva, Ulcers, and Inflammation of the Cornea, with their sequelæ, and Sclerotitis. We would especially point out fig. 1, in plate XV, as a masterpiece of pictorial skill.

The value of the plates is greatly enhanced by the excellent instructions for treatment, which are laid down with simplicity and clearness ; and the work, when completed, will, in our judgment, be the noblest contribution to ophthalmic science, which this country has ever produced.

Dr. Jacob's remarkable work originally appeared in the form of detached essays, in the *Dublin Medical Press*, and is, therefore, we presume, generally known by the profession. For this reason, we leave our readers to judge for themselves as to the correctness of the views entertained by the learned author.

Contributions to Mental Pathology. With Introductory Observations, containing the Past and Present State of the Insane in Ceylon, etc. By James George Davey, Licentiate of the Royal College of Physicians, London, etc. 8vo., pp. 276. London : 1850.

The title of this work scarcely gives a correct idea of its contents. The "Contributions to Mental Pathology" form by far the smallest portion, the great bulk of the volume being occupied with an exposure of the unpleasantness of the author's position, as superintendent of the Lunatic Asylum at Ceylon—a vindication of his own conduct there, and loud complaints of the treatment he received at the hands of the medical authorities of the colony. We think Dr. Davey was ill-advised, in putting forth his statement in its present shape. A pamphlet, containing the essential facts, would have an-

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[1] London Journal of Medicine for 1849, p. 356.

swered the purpose quite as well as this volume—nay, much better ; for any one who may buy the book, trusting to its title, will rather feel himself aggrieved, by finding he must wade through page after page of irrelevant matter, and vex his brain with the quarrels of Dr. Davey and the "P.C.M.O." The state of mind thus induced will scarcely be favourable to the reception of that impression, which the author has laboured to produce.

Dr. Davey is a keen supporter of the phrenological views, and a mesmerist to boot, as the following quotation will show :—"We feel we should be guilty of great and unpardonable neglect, and moreover incur, and deservedly too, the censure of the man of science and the philanthropist, if we were to allow this opportunity to pass without insisting on the remedial efficacy of animal magnetism, or mesmerism, in cases of epilepsy, combined with mental disease. Since our connexion with Hendelle, we have succeeded in restoring one poor native lad to perfect health, who, for a period of, we learn, seven years, was afflicted with epilepsy of the most distressing character. He used to have from two to five fits every day, and each one was commonly so severe as to leave him for some time more or less insensible. His appearance, when first mesmerised, was exactly that which belongs to the last stage of phthisis, so emaciated was he. Three months after we had commenced our operations, not only had the fits *entirely* left him, but he then presented the appearance of robust health, and had become stout, and really muscular. The case created a great sensation among the servants, whose remarks upon it were not a little curious. When on the eve of obtaining his discharge, he was attacked with apoplexy, and died about thirty hours after. A very similar case has occurred in our private practice ; and it affords us much pleasure and happiness, to learn of our patient's continued good health."

We do not stop to comment upon this extract, but leave each reader to judge of its value, in accordance with his state of knowledge, and his capacity for disentangling the opinions from the facts of an author.

A Treatise on the Practice of Medicine. By George B. Wood, M.D., Professor of Materia Medica and Pharmacy in the University of Pennsylvania, President of the College of Physicians of Philadelphia, etc. Second Edition. Two Vols. pp. 1622. Philadelphia: 1849.

The work before us, though not possessing much originality, gives evidence of great industry on the part of the author. He has made himself acquainted with almost all, if not all, the contributions which have been made to pathology and practical medicine, by the labours of American, British, and continental observers ; and has, with considerable ability, digested these, along with his own remarks, into a very creditable treatise. The first part of the work, amounting to 215 pages, is judiciously devoted to General Pathology and Therapeutics ; and here we find abundant evidence of his having drawn largely from the stores of pathological knowledge collected by the labours of Drs. C. J. B. Williams, A. B. Garrod, Hughes Bennett, Andral, Rokitansky, and others.

While we thus express our sense of the merits of Dr. Wood's work, the frequent references to the American editions of Dr. Williams's Principles of Medicine and other British works, lead us to express our opinion of the trade of *re-printing*, which is carried on so actively by our transatlantic brethren. In almost every American journal which we receive, we meet with advertisements of re-productions, often with astonishing rapidity, by American editors, not only of the standard works, which, from time to time, appear in this country, but even of many of small value. In the year preceding May 1849, it appears that twenty-five native medical works, including second editions, were published in America ; while thirty-six, principally English, were re-

produced.[1] Such proceedings both indicate and tend to perpetuate a low and spiritless condition of native American literature. That American physicians are capable of producing original works of the highest class, is undoubted; and of this proof has been given in our pages by our reproduction of the anatomical and physiological researches on cartilage of Dr. Joseph Leidy. Every day adds to the treasures of native American literature and science. We hope that our medical brethren of the great commonwealth beyond the Atlantic may soon cease to be contented to reprint English books, and that Americans may become as emulous to equal the mother country in literature, as they have shown themselves to be in arms and commerce. We are all children of the same family; and whatever greatness may be achieved by American citizens, will be a source of pleasure and peculiar pride to British subjects, their elder brethren.

Pathology of the Kidney in Scarlatina. Illustrated by Cases. By James Miller, M.D., Physician to the Western General Dispensary. pp. 177. London: 1850.

This is a valuable addition to the literature of Scarlatina; and deserves to be classed with the best monographs which have appeared on this disease. The cases are full of interest, and will, doubtless, be read with great profit by all who have the time and taste for such studies, and who do not rest satisfied with what is conveyed by a paragraph in reviews or retrospects. Dr. Miller corroborates the opinions of the best and most accepted authorities; and we think that those who have given adequate attention to Scarlatina will concur with most of his opinions. The subject has recently been discussed at such length by various authors in this Journal, that we cannot upon this occasion afford space to re-enter upon its consideration, nor to give any extracts.

Dr. Miller entertains the same views regarding albuminuria as have been expressed in this Journal, viz., that it is not pathognomonic of special renal disease, but has been long since proved to be only the depletion of a congested kidney—a serous hæmaturia. The engorgement may depend, primarily, on granular disease of the organ, on an aneurism or other tumour pressing upon the emulgent vein, on the pressure of the gravid uterus, etc.; but in all these cases albuminuria is simply the sign of congestion—the spontaneous depletion of a congested organ.

Though Dr. Miller does not pretend to give a complete bibliography, yet, from the aspect of that which he has produced, we think it was due to Dr. Snow, Dr. Behrend, of Erlangen, and others, to have noticed their essays. Dr. Snow's papers appeared in the *Lancet* for 1839 and 1843; and a full account of Dr. Behrend's paper was given in this Journal for 1849, p. 765. The author of such a monograph as that now under review, ought to show that he is conversant with the labours of his predecessors and contemporaries, and likewise that he is willing to give them as much credit as they deserve.

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[1] Transactions of American Medical Association, vol. ii, pp. 407, *et seq.*

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

PRACTICE OF MEDICINE AND PATHOLOGY.

ON THE SITE OF MORBID ACTION IN DISEASES OF BONE.

By Mr. John Goodsir, of Edinburgh.

I have, in another place, directed the attention of the physiologist to the important distinction which exists between the essential and accessory elements of a texture. "A texture may be considered either by itself, or in connexion with the parts which usually accompany it. These subsidiary parts may be entirely removed, without interfering with the anatomical constitution of the texture. It is essentially non-vascular, neither vessels nor nerves entering into its intimate structure. It possesses in itself those powers by which it is nourished, produces its kind, and performs the actions for which it is destined; the subsidiary or superadded parts supplying it with materials, which it appropriates by its own inherent powers, or connecting it in sympathetic and harmonious action with the other parts of the organism to which it belongs."[1]

The neglect of this distinction by the pathologist has been the cause of much misconception regarding morbid action in textures, and has introduced many errors into the general theory of disease. Disease may have its site either in the essential or accessory elements of a texture. Our knowledge of the diseases which have their site in the essential elements of the textures is still in its infancy; but I am inclined to believe, that they consist principally of alterations in the nutritive and reproductive functions, in the chemical or physical constitution of the textures. The fatty degeneration of the muscular texture is a familiar example of a morbid change of this kind.

The great majority of the recognized morbid changes have their site in the accessory elements of textures. They are situated in the midst of the areolar texture, and among the vascular and nervous networks which separate as well as connect all the essential textural elements of the frame. They consist generally of bloody or other infiltrations; of lymph, in various stages of development; of pus; of the various forms of new formation, such as cancer, tubercle, etc. It will thus be perceived, that the majority of diseases are situated, not in the essential textures of a part, but around or amongst them; that the majority of these are new formations, parasitic in their nature, making their appearance, undergoing development, and occupying a position in the areolæ of that general connecting texture, which, either in the form of the nucleated cellule, or of the filamentous fibre, is the first to appear, as well as the most lasting and abundant of all the textures.

The more distinct the conception, therefore, which an observer may possess of the relative position of the essential and accessory elements of any given texture, the better prepared will he be to investigate and understand the phenomena of diseased action in that texture.

The successful investigation of the site and phenomena of diseases in one texture, will render the investigation in all the others comparatively easy. I have been accustomed to consider the osseous texture as best adapted for this purpose, from its stability, and the comparative ease with which its essential and accessory parts may be separated from one another, distinguished, and examined. "A well-macerated bone is one of the most easily-made, and, at the same time, one of the most curious anatomical preparations: it is a perfect example of a texture completely isolated; the vessels, nerves, mem-

[1] Anatomical and Pathological Observations, p. 64.

branes, and fat, are all separated, and nothing is left but the non-vascular osseous substance."[1]

The essential elements of the osseous texture consists of all that part which resists maceration, along with the contents of the corpuscles. The accessory elements are the periosteum, with the vessels and nerves which ramify in it; the cells, areolar texture, fat vessels, and nerves, which occupy the continuous network of the Haversian canals and cancelli, which are hollowed out in the hard substance.

Morbid Changes in the Essential Element of Bone. In the course of lectures which I delivered in the theatre of the College of Surgeons, in the winter of 1842-3, I announced the existence, and hazarded a hypothesis as to the functions, of minute masses of nucleated particles, occupying the corpuscles of bone, which are generally believed to be empty spaces. I, at the same time, stated, that I had been led by my observations to consider it as highly probable that caries, or intractable ulceration of cancellated bony texture, consisted essentially in more or less complete obliteration of the corpuscles and their contents, as well as of the connecting canaliculi, and the neighbouring Haversian canals.

I have lately repeated some of my observations on these bodies, and have been confirmed in my belief of their importance in the economy of bone, and more especially of their obliteration in caries. Caries never attacks compact bone. It is met with only in shafts, when expanded by previous disease, in the epiphyses or extremities of the long bones, and in the short bones. It occupies surfaces somewhat limited in extent, irregularly hollow, with a surface hard and spicular, encroached upon, but not generally covered by, unhealthy granulations; the pus, discharged from which has, very generally, mixed with it, minute portions of bone, apparently thrown off from the carious surface. Caries is to be distinguished from the mere absorption of the surface of a bone, as well as from that open condition of the cancellated texture which is the result of the removal of the cartilaginous and osseous articular surface. These two latter conditions of bone are capable of cure, although slowly and with difficulty, partly in consequence of the disease which accompanies or precedes them, but principally because the cancellated texture contains few Haversian canals, the abundance of which, in the shafts of bones, explains the vigorous actions which they exhibit.

In true caries, it may be observed, that for a certain depth below the surface of the affected part, the corpuscles and canaliculi have more or less completely disappeared, so that the subjacent unaltered osseous texture is covered in by a layer of apparently homogeneous solid bone resembling marble. It is analogous, in some respects, to the enamel of the teeth—1, in not being covered by soft parts; 2, in being a portion of the exterior surface of the body; 3, in containing no corpuscles or canaliculi; 4, in being incapable of absorption, and requiring, therefore, to exfoliate, or to be removed artificially.

I am not prepared at present to enter upon the consideration of the changes which the essential element of bone undergoes in rickets, malacosteon, etc., but shall refer, in the meantime, as confirmatory of my own views and observations regarding the condition of the corpuscles and canaliculi in disease, to the recent work of Von Bibra and Geist.[2] In this work, which is principally devoted to the consideration of that peculiar necrosis, which attacks the jaws of the workmen engaged in making phosphoric matches, the authors have allotted a section to the microscopic structure of various forms of diseased bone. They have described and figured the empty condition and the altered form of the corpuscles, as well as the obliterated canaliculi in certain

[1] Anatomical and Pathological Observations, p. 64.

[2] Die Krankheiten der Arbeiter in den Phosphorzündholzfabriken, insbesondere das Leiden der Kieferknochen durch Phosphordämpfe, p. 77-86.

forms of exostosis and caries, without attaching apparently much importance to the observation.

II. Morbid Changes in the Accessory Parts of Bone. The greater number of the morbid changes in the accessory parts of bone occur during that condition usually called inflammatory.

As the accessory parts are situated on the external and internal surfaces, and in the Haversian canals[1] of bone, the changes which occur during inflammatory action make their appearance only in these situations.

The increased vascularity which the texture presents when inflamed, depends in the first place on the engorgement, and in the second, on the increase in number of the vessels which are situated in the periosteum, the medullary membrane, and the Haversian canals.

After the accession of inflammatory action, the surface of compact bone assumes a porous condition, and its substance becomes more or less cancellated. This change is induced by an action similar to that by which the cancelli of healthy bone are formed. The Haversian canals assume an increased calibre, so that their orifices on the exterior surface of the bone become larger, and their cavities ultimately open into one another laterally, and assume the appearance of cancelli.

As the Haversian canals increase in size, their cavities are filled, in the first place, by enlarged and new blood vessels ; and in the second, and principally, by a substance having a gelatinous appearance, similar to the lymph effused in other inflamed textures.

When the inflammation extends to, or occurs at, the external surface of a bone, the periosteum is raised by the effusion, dragging out or extending the processes, which stretch from its external surface into the superficial Haversian canals : and as the texture which occupies the canals is the formative organ of bone, these retracted processes are the centres from which new deposits of bone proceed.

When the action is acute, and occurs in certain constitutions, death of the inflamed bone may take place, before any very decided change has appeared in the Haversian canals.

But if the inflammation is more chronic, new bone is formed soon after, or along with the enlargement of the Haversian canals. This new bone is situated around the orifices of the canals, enclosing the processes which have been drawn out by the sub-periosteal effusion, so that the surface of an inflamed bone presents numerous orifices of enlarged and open Haversian canals, with their lips more or less thickened or everted ; the internal half of the convex edge, which bounds an orifice belonging to its own lip, the other half to those of the neighbouring canals. The inflamed surface is now slightly elevated by this new deposit of bone, the degree of elevation, and the size of the canals, being greatest at the centre of the inflamed spot, or where the action was most acute. This process of deposition continues for some time, and exhibits, on section, a structure similar to that of the subjacent inflamed old bone, the Haversian canals being large, and assuming more of a direction rectangular to the surface.

An enlargement by absorption now occurs in certain Haversian canals, in the new and old bone.

If the inflammation be periosteal,—that is, if it be confined to the superficial part of the bone, this secondary absorption takes place in the first formed canals of the new bone, those on its deep surface, and in those of the external aspect of the old. There now appears, in consequence of this absorption, a line of cancellated texture between the new and old bone. If the action have involved more or less of the entire thickness of the compact wall of the shaft, the secondary absorption invades, from the surface inwards,

[1] See Howship's *Observations on Healthy and Diseased Bone,* in vols. vi, vii, viii, and x, of the *Med.-Chir. Transactions,* London.

a greater or less extent of the old bone, and less of the new. While the inflammatory action and the process of absorption continues, new deposit of bone still appears towards the surface, increasing the swelling, and preserving the more compact structure of the periosteal aspect.

By modifications of this general mode of action, all the varieties of inflamed bone are induced.

A node is produced by an action such as has been now described, occurring over a limited portion of the periosteal surface, the inflammation and secondary absorption not extending, in general, deeply into the surface of the old bone, but confining themselves to the newly formed texture.

A section of a common osseous node, therefore, presents, from the external surface inwards, first its periosteal compact surface, the Haversian orifices of which, are larger than those of the healthy bone, and largest at the most prominent part of the node; secondly, its cancellated texture, consisting of enlarged anastomosing irregular Haversian canals; third, a layer of the external surface of the original bone cancellated,—that is, with its Haversian canals enlarged over an extent equal to the base of the node, and to a depth corresponding to the progress of the inflammatory action inwards.

In some nodes, the section exhibits the secondary absorption entirely confined to the new bone, so that the latter appears as if it had been entirely developed in the periosteum, and had not become intimately united to the surface of the old bone.

The uniform, or more or less irregular, thickening of the shafts of bones which have suffered from chronic inflammation of a specific character, is produced by modifications of the same process of deposition and absorption as occurs in the formation of nodes. The orifices of the Haversian canals on the surface of the expanded shafts are all more or less enlarged, especially where the action has been greatest, and the bone most prominent. They exhibit various modifications of the ring-shaped, or tubular osseous deposit which has been formed around, and encircles each of them; and, according as these happen to be arranged or combined, we may observe the surface covered by tuberous, spicular, stalactitic, or obliquely-lamellar processes, the osseous edges and extremities of which represent the Haversian orifices with corresponding peculiarities of character and combination.

Sections of enlarged shafts exhibit, on a more extensive scale, the results of secondary absorption, similar to those which occur in nodes. When this absorption has been more or less completely confined to the new bone, the original wall of the shaft may be traced through the section, with more or less of its original thickness. When the entire thickness of the shaft has been effected, then the absorption will have extended over a greater or less extent of the compact texture of the original wall, and the entire bone will be light and cancellated.

In nodes and enlarged shafts, we occasionally observe alternate layers of compact and cancellated bone, more or less regularly disposed. This is one of those appearances, which have given rise to the expansion theory of enlarged bone. But as bone enlarges in disease, as in health, by reciprocal depositions and absorptions, this laminated arrangement cannot be explained by the hypothesis.

It would appear to be the result of renewed inflammation, nearly in the planes of the compact lamina of the originally cancellated node or shaft, and a consequent deposit of new bone narrowing the canals, and rendering compact a plane of bone immediately exterior.

The spicular, nodular, or lamellar processes which are developed around ulcerated or carious surfaces, and at the margins of exfoliations, are produced in the same manner, by modifications of the Haversian canals of the part. The extreme modification of this kind of enlarged bone, is exhibited by the more or less complete osseous shells which envelope dead shafts, and the

origin, or source of which, have given rise to so much controversy in the pathology of necrosis.

The areolar and vascular texture contained in the Haversian canals of bone, is also the site of all cancerous, medullary, sarcomatous, fibrous, and scrofulous deposits, and tumours in bone. The essential element of the texture is in no way affected by these new formations. The cells, granules, and plasma of which they consist, become developed, and propagate themselves in the areolar and vascular net-works within the canals, like the sporules, thallus, and phycomater of fungi: the walls of the osseous canals giving way by absorption before the increasing mass of new organisation.

But here also, as in the inflammatory affection of bone, the absorption of one part is accompanied by deposition in another.

It is highly interesting to observe how the spicular and laminated masses which lie imbedded in cancerous and medullary tumours of bone, if traced back to the old bone from which they arise, will be found to spring from between the more enlarged Haversian orifices, out of which the parasitic masses have protruded; and how these spicular lamellated processes derive their characteristic forms and directions from this anatomical arrangement.

Ulceration of bone consists in the entire removal of the osseous texture of a part, by the continued and complete absorption of the walls of the Haversian canals of the part affected. It is important to observe, that this absorption or ulceration of bone never takes place, without a corresponding deposition of bone in the neighbourhood.

Conclusions. 1. That in the osseous, as well as in the other textures, we must distinguish between those morbid conditions which have their site in the essential, from those which are situated in the accessory, parts of the texture.

That, in reference to the changes in the essential parts of bone;

2. Caries, one of the most obstinate and painful affections of the texture, depends on the more or less complete obliteration of the corpuscles and canaliculi, and the conversion of the carious surface, for a certain depth, into a substance resembling the enamel of the teeth.

3. That all the inflammatory changes in bone have their site in, and depend on, an increase or diminution in the number and size of the Haversian canals.

4. That all the malignant and non-malignant growths in bone have their site in the Haversian canals.

5. That the various forms of spicular and laminated exostosis, which are found co-existing with malignant or non-malignant growths, are necessary results of the dilatation and extension of the affected Haversian canals. [*Edinburgh Monthly Journal*, February 1850.]

INDURATION OF THE CEREBRUM.

M. Duplay, physician to the Hospice des Incurables in Paris, related the following interesting case at a meeting of the Société de Biologie, in November 1849:

Case. V., aged 41, was admitted into the hospice for males, on the 22d of June, 1849. He had complete paralysis of the lower extremities, and moved the upper limbs with difficulty, so as not to be able to feed himself. His intellect appeared intact, for he understood all that was said to him; but he had extreme difficulty in articulating. His sister gave me the following account of the progress of his disorder:—

He had enjoyed good health up to 1839. He was strong, and well able to follow his occupation as a sawyer; he was not addicted to drinking, but appeared to have indulged in an abuse of venereal pleasures. In the course of the year 1839, he felt numbness in the lower limbs, which gradually became weak; walking was at first unsteady, and soon became so difficult that he

was obliged to use a stick, and subsequently crutches. The usual remedies were employed: the spine was covered with cauteries and moxas; he was admitted into the hospital St. Louis to have sulphur baths; but no remedies had any effect. At the end of three years, his speech became difficult, and soon almost unintelligible. He preserved his intellect entire. The rectum and bladder were paralysed; he had no stools without the aid of enemata or purgatives. About the time when the difficulty of speech appeared, the movements of the upper limbs began to be unsteady. Having exhausted all his resources, and obtaining no amelioration of his condition, he was admitted into the hospice.

On the 29th November, 1849, V. was admitted into the infirmary of the hospice with symptoms of pericarditis, and pleurisy of the left side. By energetic treatment, these affections were removed in a fortnight; but his health had been much shattered by them. In the sacral and trochanteric regions, there were large sloughs; he was in a state of extreme emaciation, and it seemed improbable that he would be able to bear up with the abundant suppuration. During his stay in the infirmary, I was able to observe the affections of the nervous system, which continued the same up to his death.

There was complete paralysis of the lower extremities; the legs were semi-flexed on the thighs, and the thighs on the pelvis; and they returned to this position immediately on the cessation of any attempt to straighten them. Sensation was preserved; the slightest irritation of the skin was felt by the patient. The upper limbs were not in a state of semi-flexion; the patient could move them, but was unable to regulate the movements, and easily let fall whatever he took in his hand; sensation was perfect here also. His speech was unintelligible; he could only with very great difficulty articulate a few words at intervals. The intellect appeared intact, and he understood the questions which were addressed to him. The functions of sight, hearing, smelling, and taste, were normal. The rectum was paralysed; and there was incontinence of urine. I was several times obliged to administer croton oil, in order to obtain alvine evacuations. The patient became gradually weaker, being reduced by the extensive suppuration, and died in an extreme stage of marasmus, on the 23d of November, 1849.

Post-mortem examination. The appearances found, were such as the progress of the disease had not led us to expect. The bones of the skull seemed natural; the dura mater was not adherent to the cranium, and the arachnoid cavity did not contain more serum than usual; the cerebral arachnoid presented, on the convex surface of the hemispheres, a slightly opaline tint; the sub-arachnoid cellular tissue was slightly infiltrated with a transparent serosity; the membranes were not at any point adherent to the cerebral convolutions, but were easily detached. The grey matter of the brain was normal; no change in consistence or in colour could be perceived. The outer third of the white matter on each side, except slightly presenting vascular points, was of normal consistence. But the two other thirds presented a remarkable increase of consistence, which gradually became greater towards the ventricles. The cerebral substance here was divided with difficulty; the slices resisted traction, and required considerable force to be used before the finger could divide and crush them. The change was symmetrical on the two sides, and occupied an extent of six centimètres (2·358 inches) from before backwards, by four (1·572 in.) in a transverse direction. The white substance had lost its brilliancy; it was dull, and of a slightly pale red tint. The thalamus opticus and corpus striatum on each side were also somewhat hardened, but less so than the white matter. The ventricles contained only a small quantity of limpid serosity. The cerebral protuberance appeared to have undergone a slight increase in consistence, but this was not very apparent. The spinal chord was small and slender, as if atrophied. The membranes were healthy; and the vertebral canal presented no trace of tumour or other appreciable

lesion. The medulla, on being examined very carefully throughout its whole extent, was found to possess everywhere its natural colour and consistence; no trace of ramollissement or of hæmorrhage could be discovered. The other organs presented no remarkable appearance. [*Gazette Médicale de Paris*, 9 February, 1850.]

CRYPTOGAMIC VEGETATIONS IN THE INTERIOR OF THE HAIR IN FAVUS.

Dr. C. Wedl has published an account of his having discovered Cryptogamic Vegetations in the interior of the hair in Favus. After briefly referring to the observations of Gruby, Günsburg, Malmsten, and Lebert, he says:—

I directed my attention to the interior of the hair, making use of a concentrated alkaline solution to render it more transparent. This solution acts on some parts of the hair in a very remarkable manner; in different strata of it, there appear small elongated gas-bubbles, with a sharp dark outline, giving the appearance of an interrupted canal; sometimes also larger gas-bubbles are seen lying at the outside of the hair. The latter gradually becomes more transparent; and, in the situation of the dark broken canals, there appear filaments formed of elongated quadrangular or roundish molecules; these extend through a certain portion of the hair, here and there giving off branches, and are to be found in all layers of the hair. These filaments consist of granules arranged like beads. Their transverse diameter varies; their length is also very variable; here and there, only a few granules are linked together, while in other parts there are several dozens of them. The branches which spring from them are sparse, generally very short, and always single; the direction of these filaments is in the longitudinal axis of the hair. I have never seen them hanging from the outside, unless I had torn the sheath of hair, or the whole hair, by rubbing it to and fro on the glass, after it had been acted on for an hour by strong liquor potassæ. On the surface, one often indeed sometimes sees regularly arranged filaments surrounding the hair; but the most beautiful and conspicuous are these transverse granular filaments, at the place of exit of the hair from the epidermis. In the latter, which often remains hanging when the hair is torn out, are usually some pretty numerous groups of granules (sporidia), and here and there a granular filament comes into view, which passes transversely across the hair, or even seems to end in it.

I could not ascertain with precision the entrance of the filaments of the dependent epidermis into the hair; but I have no doubt that such is the case, because these granular filaments are most abundant at the above-mentioned point of exit; moreover, they decrease as they proceed upwards, and disappear at the end of two or three lines; they extend some way down, but not in such numbers, and do not seem to reach the bulb. The point of concentration of these filaments is, then, the place where the hair emerges from the epidermis; it is here surrounded with the vegetations of favus. In order to establish the fact, that the filaments in the hair are really fungous growths, it is necessary to examine fungi, but especially those of favus, under the action of strong liquor potassæ. There also is an extrication of gas under the microscope; the sporidia and thallus fibres are not dissolved, but are rendered more conspicuous, while the epidermis cells become faint. Dr. Hebra perceived the development of a fœtid gas in his researches, when fungi were exposed longer than usual to the action of liquor potassæ.

With regard to the frequency of this appearance, it is to be observed, that in most cases of favus, it is possible to find these fungi in the hair, especially when light. When it is dark-coloured, it requires to be macerated about half an hour in strong liquor potassæ; but, in light hairs, the sporidia can be seen in from five to ten minutes.

This remarkable circumstance—the growth of fungi in the interior of the hair in favus—gives an explanation of its well-known dryness and brittle-

ness, for the nutrition of the hair must be interfered with by the parasitic structures. Moreover, these observations throw light on the long known rule in dermatology, that, in order to cure favus effectually, the hair must be removed. [*Zeitschrift der K. K. Gesellschaft der Aerzte zu Vien.* Fünfter Jahrjang 1849, p. 643.]

MUCOUS PNEUMONIA, OR SUFFOCATIVE CATARRH, OF VERY YOUNG CHILDREN.

Every one who has been in the habit of carefully observing and reflecting upon the phenomena of disease in early infancy, must have been struck with this remarkable fact—that extensive pneumonia is, comparatively speaking, often, not only *easily*, but *speedily* cured; while that which is circumscribed and apparently less formidable, has, more commonly, a fatal issue. We think the following remarks, by M. Duclos, are interesting, and important in their bearings upon this subject. We concur generally in his treatment, though we consider it defective, in not pointing out the danger of fatal depression, if the emetics be pushed too far, especially when they do not cause vomiting: in the omission of an account of the precautions required in such cases; and in the absence of rules for the management of the skin. Our abstract is chiefly taken from the *Revue Médico-Chirurgicale de Paris*, for January 1850, p. 38.

Memoir of M. Duclos. M. Duclos has seen, at the Hospital for Children, cases of double pneumonia, in which the whole pulmonary parenchyma was involved, and in some spots presenting hepatization, yield after from nine to twelve days—the mean duration of pneumonia in early infancy: whereas, others in which the affection was more limited, without reaching the stage of hepatization, have, after four or five days, terminated in death. He has found that these two classes of cases differ essentially:

1st. In the mode of production. 2nd. In the symptoms. 3rd. In the anatomical characters.

M. Duclos designates the rapidly fatal form of the disease Mucous Pneumonia; being what others have described under the names of *Suffocative Catarrh* and *Capillary Bronchitis.*

1. *Mode of Production.* Vigorous, strong children with *fat* chests, are those liable to Mucous Pneumonia. Most commonly, it begins as a simple bronchitic attack. The chest, as ought to be the case, is probably auscultated at brief intervals during the day, without any other symptom being indicated; when at last, upon some one occasion, signs of inflammation of the substance of the lungs are discovered. Mucous Pneumonia may be considered as the sequel or extension of a catarrhal phlegmasia. It is important to bear in mind, that it occurs most frequently during the first dentition. The ordinary pneumonia is more generally a distinct disease.

2. *The Symptoms* also present essential differences. In the ordinary pneumonia of very young children, a subcrepitant râle is heard when lobular inflammation exists, and a *souffle* is also heard in like circumstances. There exist likewise oppression, agitation of the alæ nasi, and a sulcus at the base of the chest corresponding to the insertion of the diaphragm; a sulcus so very characteristic as a symptom, that M. Trousseau has called it the *sillon peri-pneumonique.* Fever attends the above-named symptoms. The latter symptoms are to be met with in Mucous Pneumonia, but those furnished by auscultation are different; there is no *souffle* to be heard, because the pneumonia is not lobular. In Mucous Pneumonia, the bronchial secretion is extremely abundant; the mucous râle masks the sub-crepitant râle; and the mucous râle is so loud that it may be heard by approximating the ear to the chest, without actually applying it.

3. *The Anatomical Characters* of bronchitis and lobular pneumonia are both found in the Mucous Pneumonia; and it is on this account that M. Duclos

has adopted that name for the disease. On slicing the lung with the scalpel, a marbled aspect is presented; some lobules are decolorized, or of their natural hue, while others appear as if deeply stained with the lees of wine, and which have evidently been the seat of inflammation. If the last-mentioned lobules be carefully isolated and placed in water, they sink to the bottom; but the others, which have not been the seat of inflammation, float on the surface when similarly treated, and even after an attempt has been made to press out the air with the fingers. The bronchial ramifications are choked with mucus.

Prognosis and Treatment. Physicians form very often a favourable prognosis in Mucous Pneumonia, which, to their dismay, is abruptly disproved by the death of the patient. It ought always to be looked upon as a most formidable complication of pulmonary disease. With regard to treatment, M. Duclos shows that it must be different from that of ordinary pneumonia; *first*, on account of the rapid progress of the malady, from the onset of the inflammatory symptoms; *second*, from the mechanical obstacle to respiration, caused by the choking of the air-passages by mucus. Emetics are essential; and a syrup of tartar emetic and ipecacuanha is to be given every ten minutes, till the infant have vomited four or five times. The medicine is then suspended, and it is again exhibited in the same way, morning and evening, till the same effect be obtained. It is not so easy to produce vomiting after the first time, so that larger doses, and the drinking of tepid water as an adjuvant, are required. During the intervals between the excitement of vomiting, an antimonial mixture, with a small quantity of opiate syrup, is given; but this is a secondary and not an essential part of the treatment. In the same category he places counter-irritation of the skin, whether by embrocations of croton oil, etc., or by blisters, which, when he does employ, he puts on the legs, in preference to the anterior or posterior part of the chest. Blisters early applied to the legs, and made to discharge freely, M. Duclos considers very useful. His treatment may be thus summed up:

1. Emetic treatment as described—Essential.
2. Use of antimonials in the intervals.
3. Counter-irritants, especially blisters to the legs.

} Useful.

CHLOROFORM ADMINISTERED WITH ADVANTAGE IN LEAD COLIC: ANODYNES IN LEAD COLIC.

Dr. Blanchet, in the *Journal de Chimie Médicale*, recommends this practice. He details two successful cases. Believing that the best method of treatment is, in the first instance, to give energetic anodynes and antispasmodics, we are prepared, *à priori*, to approve of this recommendation of Chloroform in Lead Colic; but the form of administration, which we would decidedly prefer, is Smith's mixture (with camphor), both from its convenience, and from the therapeutic utility, in such cases, of both ingredients. We have not had an opportunity of giving this mixture in lead colic, but we have largely used it in analogous cases; and when an anodyne and antispasmodic is required, we know of no better prescription. Notices on this subject will be found in our volume for 1849, pp. 102 and 842. Belladonna, applied externally, we have several times used with success in cases of Lead Colic. The patient obtains speedy relief; and the cure is completed by one or two doses of castor oil, or a mercurial purge, with or without camphor and henbane, as the case may require. Opium may, in some subjects, be found more useful than any other medicine. The important principle to bear in mind is this—that the spasm of the intestines must be first subdued; and that till this be accomplished, purgatives only aggravate the severity of the symptoms.

SURGERY.

ON LITHOTOMY AND LITHOTRITY: BEING AN ACCOUNT OF THE EXPERIENCE OF MM. PAMARD, SENIOR AND JUNIOR, FROM 1792 TO 1849, EMBRACING SEVENTY-TWO CASES.

The following is the substance of a paper (*Revue Médico-Chirurgicale*, May 1849), by M. Pamard, Surgeon to the Hospitals of Avignon, in which he describes all the cases of Lithotomy and Lithotrity which had come under himself and his father. Documents of this description are as valuable as they are rare.

I am one of those who attach great value to authentic and well-compiled medical and surgical statistics. In furnishing such contributions to science, country practitioners possess an advantage. Their practice is daily open to the observation of their brethren, who live, like themselves, in the midst of the patients, and exercise such a check, as to render it very difficult for errors, either voluntary or involuntary, to occur. I proceed to give the operations of my father; giving first the cases upon whom Lithotomy was performed more than once; and then those who died within two months after the operation. The other cases are arranged according to their date. From the 5th May 1792, to the 19th May 1818, my father performed Lithotomy in sixty cases, of which he lost five: but the sixty operations only represent fifty-five patients, because one was cut thrice, and two were cut twice.

Case 1. V. Duclos, of Pont-Saint-Esprit (Gard), aged 68, was cut in the year VII (A.D. 1797), by an operator of Grenoble. On the 30 fruct. year VIII (1798), my father operated for the first time. A stone again formed; and was removed on the 5 vend. of the year X (1800), and a third stone was removed on the 1st vend. of the year XII (1802). The patient survived a long time after the third operation, without another stone forming.

Case 2. A. J. Jouve, aged 48, of Gordes (Vaucluse), was cut for stone, on the 13 floréal, year VI (1796). A fistula formed, which probably was the cause of the production of a new calculus; for which a second successful operation was performed on the 15 frimaire, year VII (1797).

Case 3. J. Ricard, of Cavaillon (Vaucluse), aged 15, was cut the first time on the 8 frimaire, year VIII (1798); and the second operation, which was successful, was not performed till the 27th September 1811.

Case 4. J. Lombard, of Avignon, was cut for stone on the 23 brumaire, year VII (1797), having had the same operation performed when 4 years old by my grandfather. The stone never formed after the second operation.

Case 5. J. Veyren, aged 19, of Villeneuve (Gard), had Lithotomy performed on the 4 floréal, year VIII (1798). My father conjectured that the first operator had left fragments of the calculus in the bladder. The operation was repeated on the 3 frimaire, year IX (1799); and the patient recovered.

Case 6. T. Morgan, of Caumont (Vaucluse), a female, aged 8 years, had suffered from her birth. Lithotomy was performed on the 30 vendémiaire, year III (1793). The operation was difficult, and the bladder was torn at its fundus. The stone was very large, considering the age of the patient, weighing 105 grammes (about 27 drachms apoth. weight). The child died on the fifth day after the operation.

Case 7. N., a man, aged 72, of Avignon, was cut on the 20th August 1792. He had suffered for 20 years, and was only driven by pain to submit to the operation. The pubic artery was probably involved: the stone was very large and jagged. After a succession of hæmorrhagic attacks, the patient died on the 26th September.

Case 8. J. O., a boy, aged 10, of Crillon (Vaucluse), was cut for stone on the 8 floréal, year VI (1796). Owing to the size of the stone, the operation was long and painful. It broke under the pressure of the forceps, which

necessitated their repeated introduction. Death, from inflammation of the bladder, ensued three days after the operation.

Case 9. F. C., a lad, aged 19, of Malaucène (Vaucluse), was cut on the 23 brumaire, year VII (1797). The operation was easily and rapidly performed; but the patient died from phlebitis on the eighth day.

Case 10. M. V., a man, aged 25, was cut on the 16 floréal, year VIII; and though there was no complication in the operation, it was followed by death from phlebitis on the 27th of the same month.

Case 11. P., a boy, had a small stone removed by Lithotomy, on the 5th May 1792. Rapid recovery.

Case 12. V., male, aged 17; cut 19th April 1797. Rapid recovery.

Case 13. M., aged 47, a man, was cut 18th May 1793. Rapid recovery.

Case 14. Fabre, aged 8 years, cut 9th May 1793. Recovery.

Case 15. F., a boy, aged 4 years, cut 27th September 1793. Rapid recovery.

Case 16. R., a boy, aged 7 years, cut 21st September 1793. Recovery.

Case 17. M., a boy, aged 10 years, cut 7th October 1793. Hæmorrhage occurred, requiring a canula, armed with agaric, to be introduced; but, nevertheless, a rapid recovery ensued.

Case 18. P., a boy, aged 3 years and 8 months, cut 9th October 1793: stone small; recovery rapid.

Case 19. T., a boy, aged 17, was cut 4th January 1794. Recovery.

Case 20. T., a boy, aged 12, cut 2nd May 1795. Rapid recovery.

Case 21. F., a young lad, cut 2nd May 1795. Rapid recovery.

Case 22. R., a boy, aged 7, cut 2nd June 1795. The stone was fractured; the operation was protracted, and recovery took two months.

Case 23. R., a man aged 80, cut 27th May 1796. He had hæmorrhage, requiring the introduction of a canula. Recovery.

Case 24. G., a man, aged 24, cut on the 3 brumaire, year VII (1797). Recovery.

Case 25. R., a boy, aged 5, cut 16 frimaire, year VII (1797). The stone was large; and the seizing and extracting of it were difficult. Recovery.

Case 26. A., a boy, aged 5½ years, cut 16 floréal, year VII (1797). Recovery.

Case 27. R., a man, aged 75; enormous stone extracted by Lithotomy on 10 floréal, year VIII (1798). Recovery.

Case 28. L., a man, aged 47, cut 3 fructidor, year VIII; the stone was enormous. Recovery took place, but with a recto-vesical fistula, evidently originating in a wound of the rectum.

Case 29. A., a boy, aged 9 years, cut 5 floréal, year VIII (1798). Speedy recovery.

Case 30. R., a boy, aged 9 years, cut 6 frimaire, year X (1800); two small calculi. Speedy recovery.

Case 31. G., a boy, aged 5 years, cut 20 floréal, year X (1800). Recovery.

Case 32. B., a boy, aged 4 years, cut 24 floréal, year XI (1801); mulberry calculus. Rapid recovery.

Case 33. B., a boy, aged 8, cut 9 thermidor, year XII (1802). Recovery.

Case 34. D., a young lad, cut 2 messidor, year XII (1802). Recovery.

Case 35. G., a boy, aged 4½, cut 27 brumaire, year XII (1802). Recovery.

Case 36. C., aged 27: cut 3 floréal, year XIII (1803) The calculus was large and friable; the operation was prolonged. Recovery.

Case 37. D., a boy aged 13: cut 21 floréal, year XIII (1803). Recovery.

Case 38. D., a doctor in surgery, aged 65; he had suffered for twenty years, but had never allowed himself to be sounded. Pain, at last, overcame his reluctance: and he was cut for stone on 15th March 1806. The stone was very large; but nothing untoward occurred, and recovery was rapid.

Case 39. S., a man aged 22: cut 3rd June 1806. Recovery.

Case 40. C., a boy aged 11: cut 13th September 1806. Speedy recovery.

Case 41. R., a man, aged 31 : cut 6th December 1806. From the large size of the stone, force had to be used in the extraction ; nothing untoward occurred. Recovery.

Case 42. T., a boy, aged 8 : cut 24th October 1806. The stone was large and friable ; the child had suffered from his birth ; the operation was prolonged : recovery took place, but there was a urinary fistula.

Case 43. Servant, the curate of Tulette (Drôme), aged 68 years, was cut on the 9th May 1808 ; he was a lusty subject, and the operation was laborious ; but the success of the operation was complete—a fact worth notice, as Roux, the famous operator of the Hôtel Dieu, states that every ecclesiastic whom he has cut for stone, has died.

Case 44. S., aged 56 years : cut, 2nd of September 1810 : large stone. Recovery.

Case 45. T., a man aged 74 : cut 3rd of October 1810. The stone was very large, and weighed 110 grammes (about 28¼ drachms apoth. weight). In spite of the age of the patient, and the force required in extraction, recovery was quick and complete.

Case 46. F., a man aged 50 : cut 15th October, 1810. Recovery.

Case 47. C., a man aged 22 : cut 4th October, 1810. Stone large. Recovery.

Case 48. Madame Valentin, of Avignon, aged 25 : cut 7th October, 1811. The stone was very large, and its extraction was difficult. The incision, which was low, and on the left, involved the vagina. Recovery took place, but she had incontinence of urine.

Case 49. Madame Cambon, aged 21 : operated on in the same way as Madame V., on 10th November, 1812. She recovered, and had no remaining inconvenience.

Case 50. P., a boy aged 12 : cut 24th September, 1812. Recovery.

Case 51. Melin, aged 3½ : Lithotomy 17th May, 1814 : small calculus. Speedy recovery.

Case 52. Reynaud, aged 64 : large calculus extracted 12th May, 1817 : considerable hæmorrhage. Recovery.

Case 53. Joussaud : cut 16th June, 1817. Recovery.

Case 54. Jeaume ; suffered from birth : cut 14th June, 1817. From the number of calculi, the operation was laborious. Recovery in ten weeks.

Case 55. M., a woman aged 58 : cut 10th June, 1817. Very large stone. Complete recovery.

Case 56. R., a man aged 17 : cut 19th May, 1818. Success complete.

I now proceed to detail my own experience ; *first*, in Lithotomy ; *second*, in Lithotomy preceded by attempts at Lithotrity ; and, *lastly*, in cases in which Lithotrity alone was performed.

I. Lithotomy. Case 1. M. Baldy, of Nîmes, aged 15, had, when six years old, been cut for stone, by M. Pleindoux. Till within two years, he had retained a fistula in perinæo : operated on, 2nd March 1832. Dismissed cured on the 8th April.

Case 2. M. Martin, of Avignon, aged 20, had suffered from infancy ; but neither her pain, nor the entreaties of her relatives, could induce her to submit to an operation. The operation was ultimately performed on the 18th of January 1837, under the disadvantageous circumstances of a presentiment on the part of the patient that she would not recover. Lithotrity appearing inadmissible from the large size of the stone, and the very irritable state of the urethra. The stone weighed 77 grammes. For the first days, the patient appeared to be doing well ; but, on the fourth, rigors and fever set in, and she died upon the 24th of January. On dissection, I found the mucous tunic of the bladder red and soft ; there was pus in the iliac veins. The abdomen was distended with gas, and the peritonæum dotted with red spots.

Case 3. B., of Monteux (Vaucluse), aged 9 years, was operated upon, at his father's house, on the 21st of September 1836. The stone weighed ten grammes. Recovery was complete fourteen days after the operation ; and the patient, who is now a military officer, has never had any return of the affection.

Case 4. M. C., aged 72, of Entrechaux (Vaucluse), a healthy old man, after suffering for four years, was operated upon on the 11th May 1840. I removed three calculi, smooth and presenting facets formed by friction against each other, and weighing, collectively, 80 grammes. The cure was complete on the 28th June.

Case 5. L., aged 21, of Fresney (Mayenne), who had suffered from his earliest years, was operated upon in hospital on the 10th of January 1841. The stone was bulky and indented, and weighed 45 grammes ; it broke under the forceps, but was all removed : and the patient was dismissed cured on the 5th of February.

Case 6. M., a soldier, aged 27, of Bourret (Tarn-et-Garonne), was operated upon on the 18th of January 1842, in hospital. The stone was hard, voluminous, and brown in colour ; weighed 60 grammes, and was extracted entire. The wound shewed an indisposition to heal, which rendered it necessary to introduce deeply the solid nitrate of silver. On the 17th of May, being four months after the operation, he went out completely cured.

Case 7. M., aged 15, of Villeneuve (Gard), a thin and irritable youth, had suffered from his earliest recollection ; but his parents could never persuade him to allow himself to be sounded, till I was permitted to do this, and discovered a hard calculus with unequal surface. The extremely sensitive condition of the urethra rendered Lithotrity inadmissible ; and I performed Lithotomy on the 20th of February 1844. The stone was very large, and very light, not weighing more than 8 grammes. On the 22nd of March the patient left the hospital, perfectly cured.

Case 8. N., a man aged 27, of Labastal (Hautes-Pyrénées), had endured a miserable existence for a long time previous to his entering the hospital, on the 28th of February, 1845. I cut him on the 2nd of March. The case presented a circumstance worthy of being mentioned. There was contraction of the bladder to such an extent, as to impede the separation of the blades of the forceps. The stone, however, was seized and extracted ; it weighed 32 grammes. Its appearance might have suggested the idea, that it was a substance moulded in the bladder of a child. On its upper part there was a plane surface ; but, upon digital exploration, I satisfied myself that there was not a second stone. The patient left the hospital cured, on the 11th of April.

Case 9. G., aged 4½ years, of Gravéson (Bouches-du-Rhône), had suffered from the time of his lactation. I performed Lithotomy on the 22nd of July, 1847, as, in young children, I infinitely prefer this operation to Lithotrity. He was placed under the full anæsthetic influence of ether. I used polypi forceps, being an instrument which I prefer in children. I removed an oval calculus, of the size of a large bean ; after which, I introduced my finger (as I always do in children), and discovered a second calculus, of the size of a pea, which was easily extracted by means of the index finger, without the aid of any instrument. The two stones, collectively, weighed 3 grammes. On examining the second calculus with care, it was found to be covered with facets, which led me to conclude that there were a group of small calculi ; but, on again introducing the index finger, I found the bladder completely unembarrassed. The only explanation which can be given of these facets, is to suppose that friction took place between the two calculi. The issue of this case was fortunate. At the end of a month, the child was well ; and, though thin, he was in good health. I have seen him this winter, and can testify that he is a superb child, and in the enjoyment of perfect health.

Lithotomy preceded by attempts at Lithotrity. Case 10. A B., of Avignon, aged 8 years, was brought into hospital on the 27th March,

1845. I detected a small calculus in the bladder; and, yielding to the wishes of the parents, though in opposition to my own opinion, consented to perform Lithotrity. Having dilated the urethra, I introduced Charrière's modification of Heurteloup's lithotrite. I seized the calculus, and broke off a pretty large fragment, which was voided into the bath in which I placed the patient immediately after operating. The operation was quickly performed; but the restlessness of the patient induced such severe pain, that I thought it my duty at once to propose lithotomy, as offering less inconvenience than Lithotrity. I performed the operation on the 18th of April, and it was followed by quick recovery.

If we may judge from the complaints of the patient, he would seem to have suffered less from the operation of Lithotomy than from Lithotrity, although the calculus had been readily seized and broken. The calculus extracted from the bladder, weighed 5 grammes; and the piece broken off by the lithotrite, one gramme and 50 centigrammes.

Case 11. Mademoiselle P. M., aged 17 years, of Angles (Gard), had been the subject of calculus for some years, the existence of which she concealed for a considerable time. Her family attendant having discovered its presence, advised Lithotrity; and she was placed under my care. On the 10th of May 1847, I operated on her at Angles, in the presence of Drs. Salomon, senior and junior, Dr. Touzet, and others. The patient having been placed under the influence of ether, I easily introduced a No. 3 Lithotrite, and immediately found a large calculus. The instrument was opened in the bladder with some difficulty; the calculus was broken at three attempts. The patient experienced no pain whatever; and, when she awoke, said she thought she was at church with her father. She was placed in a bath immediately after the operation, where she voided some fragments of the calculus: she also voided some fragments, and a large quantity of detritus, during the night.

The operation was twice repeated, at intervals of a few days; but we found that the calculus still remained large. The patient experienced pretty severe pain in passing the larger fragments; and on the last two occasions of operating, she suffered severe pain, and was very restless: she refused to be etherized. Considering it imprudent to continue Lithotrity, we proposed that Lithotomy should be performed. This was accordingly done on the 25th of June, 1847. We adopted the method improperly attributed to Dubois, but which, according to Parè, belongs to Laurent Collot, a surgeon of the sixteenth century. The incision was made directly upwards, with the lithotome of Friar Côme. As the calculus had been broken in several pieces, we had to introduce the forceps several times. The largest fragment measured 4 centimètres in its greatest diameter. The fragments which had been passed before this operation, weighed 7 grammes; and those which we extracted, amounted to 26 grammes. The result of the operation was most fortunate: on the twentieth day, the patient was completely cured, and was able to visit me at Avignon.

This result must be allowed to be infinitely preferable to that which must have been produced by Lithotrity. This proceeding would have required, perhaps, fifteen or twenty sittings, each nearly as painful as Lithotomy, and have exposed the patient to the risk of fatal cystitis.

We now come to a case in which Lithotrity was impossible, and Lithotomy was the only resource.

Case 12. Mademoiselle M. M., aged 30 years, of Malaucène (Vaucluse), had, a month previously, introduced a pen-case into the urethra, which escaped, and fell into the bladder. She came to me, and, with much hesitation, confessed what she had done. I detected the presence of the foreign body by means of a catheter, and endeavoured, but in vain, to extract it with Heurteloup's lithotrite. It was easily seized; but, on attempting to extract it, resistance was encountered, and the patient was put to great pain. It was evident that the foreign body lay transversely, and that it was probably impossible to make it change its direction. We proposed Lithotomy, which

was immediately accepted. On the 19th June 1847, having perfectly etherized the patient, I operated with a lithotome, making the incision directly upwards. I introduced the index finger of my left hand, and discovered that the body was actually placed transversely: I caused it to assume a longitudinal direction, and introduced a pair of polypus forceps along the finger, by the aid of which I extracted the substance without difficulty. It was almost entirely covered with an incrustation of phosphate of lime; there was a depression at the point where it had been seized by the lithotrite: it was eight centimètres in length, and weighed three grammes.

The rapid success of this operation could not have been surpassed. Eight days after the operation, the patient was able to return home, perfectly cured.

It is somewhat remarkable, that, a few days after, I read in the *Bulletin de l'Académie* (15 July, 1847), an account of a perfectly similar case to that which I have just related, occurring in a male. As in my patient, Lithotrity was impracticable, and Lithotomy was followed by cure.

Lithotrity. Case 13. M. P., of Avignon, aged 68 years, had long suffered from calculus; but he would not consent to Lithotomy. The pain, however, becoming more severe, the general health being impaired, and the urine depositing a glairy fœtid matter, he was compelled to decide on an operation, and chose Lithotrity. On the 25th January 1832, after having previously calmed the patient with baths and refreshing drinks, we proceeded to the operation, using M. Civiale's instruments, which were then generally employed. Although I had several times performed Lithotrity on the dead body, and had demonstrated it to the pupils at the hospital, this was the first occasion of my operating on the living subject.

The instruments were introduced easily enough; but there was difficulty in seizing the stone, from its large size, and from the contracted state and excessive sensibility of the bladder. At last, however, the stone was seized, and perforated in several points, by slightly relaxing the hold and rotating it. This sitting lasted eight minutes. A pretty large quantity of detritus was passed on the same day: on the next, the patient felt tolerably well; but, two days after, there was tenderness and tension in the hypogastrium, with difficult passage of urine. This was ascertained, by means of a sound, not to arise from the retention of a fragment of the calculus in the urethra. A large number of leeches were applied; and baths, lavements, with calmative draughts and applications, were prescribed; but nothing could arrest the progress of the inflammation of the bladder. The patient went on getting worse, and died on the 26th February, a month after the operation. Although the cystitis only appeared on the third day, and death did not take place for a month, we think that no one can doubt that the Lithotrity was the cause of death. At the autopsy, we found the calculus broken into numerous fragments. It weighed altogether 52 grammes, and the nucleus bore the mark of the perforator. The mucous membrane of the bladder was red, softened, and covered with a layer of purulent mucus, having the appearance of a false membrane. The peritoneum presented some red points of inflammation. The abdomen was distended with gas: this had distressed the patient during the whole course of his illness.

Case 14. M. R., of Orange (Vaucluse), had Lithotrity performed by M. A. Jourkoski, on the 3rd of October 1841. I was not present at the operation, but only know that percussion instruments were used, and that there is no reason to doubt that it was performed skilfully. On the 5th of October, two days after the operation, I was called to the patient, who was in a state of ardent fever, with burning skin, tension, and pain in the abdomen, and difficulty in micturition. By aid of the catheter, I recognized the presence of a calculus, and drew off a large quantity of urine. The patient felt great pain in the bladder, and earnestly requested me to relieve him by an operation. I confined my treatment, however, to calmatives and antiphlogistics, but without any hope of a favourable result. In this I was not mistaken, for the patient died on the following day. An autopsy was not made. In this

case, death was so evidently and rapidly the result of a single sitting of Lithotrity, that we do not think that the most ardent admirers of this operation can mistake it. We will now relate some successful cases.

Case 15. E. B., aged 16, of Tarascon (Bouches-du-Rhône), had been suffering for about a year, and was supposed to have a calculus. He came to Avignon to consult me ; I recognized the presence of a small stone, and proposed Lithotrity, to which he consented. On the 5th of March 1832, we operated with Civiale's instrument. The instrument was easily introduced, and the calculus was readily seized and broken up, being small and friable. The patient experienced severe pain during the search for the calculus, but afterwards did not complain. A pretty large quantity of detritus was passed in the warm bath, and a larger quantity during the night ; some of the fragments were rather large, and gave some pain. The whole of the detritus weighed three grammes. The next morning, the patient had no pain ; and, though we sounded him on several occasions, we could discover nothing in the bladder. He was evidently perfectly cured. If Lithotrity were always attended with such results, it would be one of the most splendid operations.

Case 16. M. J. A., aged 82, of Avignon, presents us with an interesting case. He was a timid man, who had suffered for a number of years, but had never been able to determine to be operated on, not even to be sounded. At last he consented ; and I recognized the presence of several apparently hard and resistant calculi, which gave a very distinct sound on being struck. Lithotrity seemed the only practicable operation ; it was accordingly performed for the first time on the 25th of February 1833, with M. Heurteloup's instruments. The canal was very large ; the instrument was easily introduced, and I soon seized a large calculus, about the size of an egg, which offered some resistance to the action of the lithotrite, but which I succeeded in breaking down. The patient groaned a good deal, but did not seem to suffer much ; he appeared to have more fear than pain. He immediately voided a considerable quantity of detritus. Four days after, the operation was repeated with the same results ; and we were obliged to have recourse to it fourteen times. He was under treatment up to the end of October ; and there were several circumstances which gave me anxiety. On several occasions, the operation was followed by an attack of violent fever ; and the patient each time became more impatient of the operation, and appeared to suffer more. At last I had the happiness of telling him, that I could find nothing in his bladder. The disappearance of pain confirmed my diagnosis ; and, in spite of his advanced age, M. A. was restored to health.

It cannot be denied, that, in spite of the pain and of the difficulties attending the operation, the success was due to Lithotrity. The detritus, as far as they could be collected, weighed 20 grammes ; but it is probable that the patient lost a considerable quantity.

Case 17. M. B , aged 22, of Bollênes (Vaucluse), had suffered for several years from a single and rather small calculus ; his general health was good. On the 9th of May 1840, we performed Lithotrity with M. Heurteloup's instrument, and repeated the operation thrice subsequently. The patient returned home, perfectly cured, on the 9th of June. The detritus of the calculus weighed 6 grammes.

Case 18. M. A. A., aged 22, of Cébagola, (Corsica) presents us with an analogous case. First sitting, 21st of March 1842. Calculus of moderate size, but hard : operation performed with percussion instruments : cured on the 19th of April, after five sittings. We collected 15 grammes of detritus.

Case 19. M. P. R., aged 17, of Avignon, was as fortunate as the two preceding patients. On the 15th February 1843, we operated for the first time ; but the narrowness of the canal caused considerable resistance and pain. The calculus was small and friable ; in fact, the smallest I ever met with. The collected fragments weighed 10 grammes. The operation was repeated four times, at intervals of a few days : on each occasion, fever supervened. The patient was cured in the space of a month.

Case 20. M. M., aged 25, of Borey (Haute-Saône), had suffered several years from stone. He told me that M. Pétrequin had discovered the existence of one, at Lyons; but he had not been able to determine to submit to an operation. Having, however, seen a patient at Avignon, on whom I had operated, he requested me to perform Lithotrity. To this I consented; and, on the 14th January 1844, operated for the first time. The stone was large; the graduated scale on the instrument indicated 35 millimètres: it was easily broken down, but offered some resistance, which increased towards the centre. The patient experienced some pain, from the retention of one of the fragments in his urethra; and I was obliged to remove it with a three-branched forceps. The operation was repeated six days after, and in all, nine times. The patient was under treatment during two months, and was found to be cured on the 11th March. The calculus weighed 30 grammes: it was formed of two layers; the external soft, friable, consisting of phosphate of lime; the internal hard, brittle, composed of uric acid.

Remarks. When we take into consideration the duration of the treatment, the number of sittings which were necessary, the necessity of using Hunter's forceps to search for fragments—we may ask, whether Lithotrity possesses any marked advantages over Lithotomy. It will be seen that, out of sixty patients operated on by my father, there were only five deaths, or one in twelve. I have arrived at exactly the same result: of nine patients on whom Lithotomy was primarily performed, one died; and of three, in whom Lithotomy was preceded by attempts at Lithotrity, none died; which gives one death in twelve cases of Lithotomy.

In Lithotrity, I have been less fortunate; for in eight operations, seven by myself, and one by another operator, two patients died. This gives a proportion of one in four. I have three times found Lithotrity useless, or attended with such inconvenience that I was obliged to have recourse to Lithotomy. I know that it will be said, that I do not praise Lithotrity, because I do not know how to perform it. This reproach, however, has been addressed to my illustrious masters, MM. Roux and Velpeau.

My father had five relapses among fifty-six cases; and in the case of M. Baldy, of Nîmes, I found a calculus in the tissue of the perineum. In 72 operations, then, there were six cases of relapse. I would desire much to know, whether, in an equal number of cases of Lithotrity, there would not be a greater proportion of relapses.

OPERATION FOR THE EXTRACTION OF A WOMAN'S DOUBLE HAIR-PIN FROM THE MALE URETHRA.

Dr. Soulé, Surgeon to St. Andrew's Hospital, in Bourdeaux, has published the following case in the *Journal de Médicine* of that city. A man, aged 23, came to Dr. Soulé, stating that his mistress had, while he slept, introduced into his urethra, one of those black forceps-shaped pins which women use for arranging their hair; but he afterwards owned that he had himself committed the folly. The blunt curve had been pushed inwards; and the two sharp points were scarcely two centimètres from the orifice. Attempts at extraction by the natural passage having failed, the penis was strongly bent, so as to cause the points of the pin to traverse the inferior wall of the urethra. The curved portion uniting the two stems was then straightened, and one of the stems was cut off close to the penis, when the extraction was completed with much difficulty. The penis was enveloped in compresses wetted with cold water; and in two days the patient left the hospital, presenting no trace of what had happened, except two ecchymotic spots, corresponding to the two punctures made by the points of the pin. The procedure of Dr. Soulé is similar to that recommended in 1847, by Dr. Boinet, in the *Journal des Connaissances Medico-Chirurgicales*, to which work we must refer for farther details.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY,

Tuesday, January 22, 1850.

Dr. Addison, President, in the Chair.

Chemical Researches on the Nature and Cause of Cholera. By Robert Dundas Thomson, M.D., Glasgow. Communicated by Sir B. C. Brodie, Bart. In the first part of the paper, the author detailed the results of chemical analyses of the blood, urine, and intestinal discharges, in the cold, or "lymphatic," stage of cholera; and in the "biliary," or febrile stage. The main results arrived at were—1. That in the cold stage of the disease, the specific gravity of the blood, and of the serum separated from the clot, is increased; that the proportion of water is less than in health, by at least nine per cent., and in some cases by as much as seventeen per cent.; that both the organic and the inorganic components of the blood are proportionally increased in amount; but that the increase of the insoluble salts is much greater than that of the soluble. 2. That the intestinal discharges, in the cold stage, when of the true "rice-water" character, resemble closely, in their chemical composition, the fluids of hydrocele and hydrocephalus; that their flocculi are formed of epithelial scales, and the watery part of water, containing a small portion of organic matter (albumen) and salts (chloride of sodium, carbonate of soda, earthy phosphate, alkaline sulphate, and some lime). 3. That the small quantity of urine sometimes found in the bladder, in this stage, presented no apparent aberration from an ordinary standard. 4. That in the biliary, or febrile stage of cholera, the blood soon regains its normal proportion of water, or even an excess of it; and that the other constituents resume their natural relation to each other. 5. That the urine, in the biliary stage, in several cases contained albumen, but presented scarcely any other deviation from the urine of health, except in the amount of urea, which at first was deficient.

In the second part of the paper, the author described some experiments, instituted by him, with the view of determining whether any poison could be detected in the atmosphere. In one series of experiments, it was ascertained that no solid matter existed in the air; but ammonia was obtained from it in the proportion of 0·319 grains of caustic ammonia, or 0·731 grains of carbonate of ammonia to 1,000 pounds of air. By another series of experiments, it was determined that no carbon or hydrogen existed in the atmosphere, except in the states of carbonic acid and water; while carbonic acid was obtained in the proportion of one volume to 6,650 volumes of air.

The author inferred, that *the cause of cholera is not a specific tangible poison, introduced into the body from without, but rather a vicarious transference of the cutaneous excretion to the intestinal mucous membrane, dependent partly on atmospheric influence, and partly on a predisposing state of the system in those who are affected with the disease.*

Dr. Snow addressed the society upon the peculiar views which he holds regarding the communication of cholera, and which have already been laid before our readers. [Vide London Journal of Medicine for 1849, pp. 1077, 1083, and 1123.]

Dr. Copland thought the experiments were too few in number to justify any definite conclusions. He feared that the emissaries of the Board of Health had been employed to support preconceived opinions, and not to elicit truth. Many misstatements had been made on the subject of contagion; but he believed that even the Board of Health had modified its views, and now admitted that cholera was, at least in certain circumstances, contagious.

Dr. Baly said, that the author's hypothesis of the cause of cholera was not supported by the phenomena of the disease; for not only would the suppression of the cutaneous and pulmonary exhalations, and the transference of the fluids normally excreted by the lungs and skin to the intestinal mucous membrane, be inadequate to produce the enormous discharges which drain the system of its fluids; but it is a fact that the cutaneous exudation is, in many of the worst cases of cholera, greatly increased, a watery fluid being in these cases poured out by the whole surface of the skin, as well as by the mucous membrane of the intestines. The draining away of the watery part of the blood was certainly the main phenomenon of the disease, all, or nearly all, the others being secondary to and dependent on it. It undoubtedly was the cause of the coldness of the body; but it prevented the development of animal heat; not, he thought, by rendering the blood thick, and thus incapable of circulating quickly, as suggested by Dr. Snow, but by rendering impossible those chemical changes which normally go on in all parts of the capillary system, and which are the source of the animal heat. The circulation in cholera is undoubtedly much retarded; but the rapidity with which the nervous system of the patients is affected by chloroform, inhaled into the lungs, shows us that the motion of the blood would still be sufficient to allow of some evolution of caloric, if other necessary conditions were present; but an essential condition for the normal processes of nutrition, and for the chemical processes on which the temperature of the body is dependent, seems to be the presence of a certain proportion of water in the blood; and it is most probably because this is wanting, that the body becomes cold. To the same causes are obviously to be ascribed the arrest of the natural secretions of the liver and kidneys, and the depressed state of other organic functions of the body; and even the remarkable condition of the mind, and of the sensitive and motor functions—their state of comparative integrity—not only affords evidence that the nervous and muscular systems are, in a great measure, independent of the watery part of the blood, so essential to the organic functions, but is itself a result of the loss of that part of the circulating fluid. Under ordinary circumstances, if the respiration continued so imperfect, and the secretion of urine were suspended for a long period, as they are in the cold stage of cholera, the blood would become charged with carbonic acid and urea, and coma would result. In the cold stage of cholera, the natural chemical processes of the body are brought nearly to a stand-still, by the loss of the water of the blood, and neither urea nor carbonic acid is formed in large quantity; the powers of the mind and of voluntary motion are therefore left comparatively unimpaired.

Mr. W. F. Barlow could not discover how failures to demonstrate any poison in the atmosphere could lead to inferences of its non-existence. Probably it was so subtle, as to defy all scrutiny. Could the poison of small-pox or scarlatina be demonstrated in the atmosphere? Yet, was there any doubt that the air could be made infectious by, and could communicate, those diseases? He had paid some attention to the state of the muscles in cases of cholera. Nothing was more marked than the extreme excitability of the muscles during life, and their extraordinary manifestation of irritability after death. The facts which related to these points were most obvious; but as to the causes of them, there were so many difficulties in the way of satisfactorily accounting for them, that he begged the few words which he had to offer might be viewed as suggestive, and not positive. The condition of the blood must be considered, if we would even approach a rational conjecture on the state of the muscles. It seemed pretty clear, that there was a great defect in the formation of carbonic acid, in cases of cholera, and therefore in the production of animal heat. He had listened with interest to what had fallen from Dr. Baly, respecting the failure of chemical changes in the blood, and their consequences. There appeared a broad difference between death in the collapse of cholera and death by asphyxia, as ordinarily considered; in the

latter, noxious blood circulated, and impaired the irritability; but in the former, carbonic acid could not be carried freely through the system; if it were, coma would follow, and the heart's action would cease, even more quickly than it was observed to do. The elevation of temperature after death is very difficult to explain. It does not depend on the post-mortem muscular contractions, because extreme elevation of temperature has occurred when the contractions have not been met with. A formation of heat takes place sometimes after death: and in cases where the body was actually cold at the time of decease, the temperature has risen to 109° Fah. As a suggestion, Mr. Barlow threw out the idea, that this was caused by chemical changes going on in the blood after death, such as occur during life.

Dr. Basham did not collect from the paper, that the different salts were specified, and their proportions given; but the author inferred that the total saline ingredients was greater than in health. 8·56 parts in 1000 were given as the mean of several analyses; and this proportion was compared with Lecanu's standard of six parts in 1000, as the mean of healthy blood. It was generally admitted that Lecanu's standard was below the mean; Simon had placed it as high as about eleven; and if the mean of many analyses of healthy blood by various chemists—Enderling, Marchand, Becquerel, Simon, and our own English chemists—was taken, the average proportion of salines in 1000 parts would not be below 11·5 to 12. He had never found the saline matters of healthy blood, on an average, lower than 10 to 10·50. Individual cases would occasionally present a lower proportion. In two cases of cholera blood, examined last August, the saline matters were considerably below the mean; this was also the case with regard to the fibrin, and these results agreed with Simon's analysis. Dr. Thomson estimated this element above the average, but did not state whether this increase was absolute, or only relative. The deficiency of water in 1000 parts would cause an apparent increase in the whole solid contents; but was the fibrin augmented in relation to the amount of albumen and blood-corpuscles? He (Dr. Basham) was surprised that no reference was made to the presence or absence of urea in the serum of the blood; he had obtained it, in several instances, during the late epidemic, from the blood, both during life and after death. The statement, that there was no departure from the natural standard of the urine in a small quantity taken from the bladder, was very contrary to the results of numerous examinations of the urine, made during the prevalence of the disease. In every case, the fluid found in the bladder was more like an alkaline solution of albumen than urine; it contained no urea, no phosphatic salts, traces only of chlorides; and these qualities were observed even in the urine of those who, for many days after the collapsed stage, passed scanty urine, but who ultimately recovered.

Dr. Copland regarded the heat of the body after death as the result of incipient decomposition. In all cases of death from cholera, the stomach and intestines were easily torn. This was also observed in yellow fever, and in malignant puerperal fever. In these diseases, there was a great increase of temperature after death.

WESTMINSTER MEDICAL SOCIETY.

Saturday, January 26, 1850.

Francis Hird, Esq., President, in the Chair.

Caries of the Head of the Femur. Mr. Henry Smith exhibited two specimens, both of which had been excised during life. The first had been removed by Mr. Morris, of Spalding, from a youth, eighteen years of age. This instance was eminently successful.[1] The other specimen was

[1] This case has been published by Mr. Morris in the *Provincial Medical and Surgical Journal* for February 6, p. 57, as well as in other periodicals.

obtained by him (Mr. S.) from an adult, between thirty and forty years of age, formerly in the Grenadier Guards. He had removed the diseased bone two years ago. The patient survived the operation six months. This last-named specimen, which had been macerated in warm water for three months, exhibited the early stage of caries; the disease had only existed eighteen months; the globular shape of the head was unchanged, but it was carious (honey-combed) all over. The neck of the bone was altogether unaffected; it remained of the usual length, and at the ordinary oblique angle with the head. In the other case, the disease had been in existence six years, and the head of the bone was completely flattened out, the neck being almost destroyed. Instead of an oblique arch, it presented a right angle with the head. In his own case, all the symptoms of dislocation of the head of the femur existed, and the operation proved his diagnosis to be correct. In Mr. Morris' case, it was supposed that dislocation had taken place, but this was proved not to be the case, when the operation was performed. A difficulty was experienced in dislocating the head, owing to a small piece of bone, which had separated from it, and lay in one of the sinuses. It was this which caused the symptoms simulating dislocation. There was very great shortening of the limb, in consequence of the destruction of the neck of the bones. He had often been asked, as to the manner in which locomotion could be performed without a hip-joint: but when the head of the femur was excised, a new joint might soon be formed. After the removal of the diseased bone, inflammation set in, lymph was thrown out in the acetabulum, (if healthy) the head of the femur became rounded off, and fibrous tissue was formed, from which resulted an entirely new capsule. Mr. Morris' patient was able to flex the mutilated thigh on the pelvis, as readily as the other, seven weeks after the operation. He had seen, a few days since, a woman who had been operated on by Mr. Fergusson, a year ago; she was able to walk, with the aid of a high-heeled shoe, without a crutch.

Malignant Disease of both Ovaries, the Rectum, etc. Mr. Nunn exhibited the morbid parts. The patient was aged sixty-two. She died in St. Giles's Infirmary, after several copious discharges of blood from the rectum. The right ovary presented the greatest evidences of malignancy. The left contained within it several cysts, the fluid in each of which differed in its appearance from that in the others. The gorged cells, which are said to be proper to ovarian fluid, were found in all, in greater or less abundance. The right ovary was highest in the pelvis, and was most plentifully supplied with blood. The spermatic artery entering its upper part, was excessively tortuous. In addition to this, branches from the right colic, superior and middle hæmorrhoidal, epigastric, internal iliac, and uterine arteries, also assisted to feed the tumour; the ureter was involved in the pedicle of this ovary. The uterus was dragged from the centre to the side of the pelvis, and was so placed, that its long axis was directed transversely, instead of being in its normal relations. The organ presented, on being laid open, no marks of disease, although malformed, by being divided into an upper and lower compartment. The os uteri was perfectly healthy, and had the appearance of belonging to a virgin uterus. The vagina and bladder were quite sound; the rectum, about an inch and a half from its lower termination, was perforated by a circular opening, large enough to admit three fingers, otherwise this viscus was healthy. The aperture formed the means of communication between the rectum and a highly vascular cancerous mass, situated in front of the rectum, and behind the vagina and uterus. This mass, if it originated in either of the organs referred to, must have occurred in the outer covering, since the mucous lining of all was, with the exception of the aperture mentioned, as sound as it is ever found in persons of an advanced age. The cæcum was thrown from its seat in the right iliac fossa, into the middle of the belly,—not by being displaced by the enlarged ovary,

but by means of the tension of the peritonæum. Cancerous deposit was found in the mammæ, and in several other organs.

Detached Osteophytes in the Longitudinal Sinus, and on the Surface of the Brain, of a supposed Epileptic. Dr. Woodfall exhibited two Osteophytes, taken from the longitudinal sinus of a woman aged sixty. They were of irregular shape, and each about an inch in length, and one-sixth of an inch in thickness at the thickest part. The larger weighed above two grains, and the smaller rather less than two grains. Dr. Woodfall only once saw the deceased in life, when she was in a state of stupor. He had ascertained from her sister, that she had, since her 14th year, been subject to fits, rather resembling syncope than epilepsy, but also somewhat epileptiform.

At eight o'clock on the morning of Oct. 20th, 1849, she was found on the floor of her bed-room, where she had fallen while in the act of washing herself, unable to rise, but perfectly sensible. Her speech was observed to be altered. She continued sensible until about eleven o'clock, A.M., when she gradually became unconscious; and when seen by Dr. Woodfall, at four o'clock, P.M., was in a state of profound coma. She died at three o'clock the following morning, nineteen hours from the commencement of the attack. The head was examined thirty-six hours after death. The substance of the brain was wounded in removing the calvarium, and a considerable quantity of blood flowed out. On the surface of the left hemisphere two thin plates of bone were found, of small size; and in the superior longitudinal sinus were exhibited the two others. The substance of the brain was generally soft. The floors of the lateral ventricles were stained with blood, which had filled them, but which had mostly escaped in opening the cranium. The softening was most marked in the posterior corner of the right ventricle, which, in parts, presented almost the appearance of pus.

Malignant Disease of the Bladder. By Dr. Lankester. In 1845, Dr. Lankester was consulted by a gentleman, sixty-two years of age, a small man, of active habits, and temperate all his life. He had, nevertheless, suffered much from dyspepsia, and had frequently had medical advice for his dyspeptic attacks. About twelve months before Dr. L. saw him, when working in his garden, he was attacked suddenly with pain in his back, followed by a desire to make water, which he found coloured with blood. He immediately sought medical advice, but the pain in the back continued, with a fresh appearance of blood in the urine. He wasted, lost his appetite, became sleepless, the frequent desire to pass his water increased, and the pain in the back continued, with great pain in the inside of the thighs. Under these circumstances, it occurred to his medical attendants that stone in the bladder was the cause of his symptoms; he was accordingly sounded more than once, but no stone could be found.

When first seen by Dr. Lankester, he was very thin, with an anxious countenance, and a peculiar stoop in his gait. He suffered much from dyspeptic symptoms, and after taking food he frequently had severe gastrodynia. The bowels were habitually constipated, and never relieved without medicine. He suffered great pain in the back; but referred the seat of it to the region of the bladder in front, above the pubes. Pressure in this region evidently gave him pain. The urine, which he passed every hour or hour and a half, was sometimes more coloured than at others. It gave an acid re-action to test paper; and, after standing a considerable time, threw down a deposit which, under the microscope, presented lithate of ammonia and organic shreds, apparently of mucus and fibrine. Blood and pus-globules could also be plainly distinguished. On applying heat and nitric acid, albumen was precipitated. With these symptoms, it was somewhat difficult to come to a conclusion with regard to the disease. Dr. L. was inclined to regard the case as one of chronic inflammation of the bladder, with ulceration. With the view of alleviating

the pain, opium and henbane were given, and mustard cataplasms applied over the region of the pubes. He seemed to get a little better under this treatment. He subsequently took copaiba. In the summer, he went into the country; and Dr. L. lost sight of him for a few months, till sent for to see him on the 21st of December. In the mean time, he had consulted an eminent surgeon, who had passed a catheter, and endeavoured to inject the bladder. This operation had been attended with great pain, and an increased amount of blood in the urine. In a note from the surgeon, who was then consulted, he says, "I could not, when I once tried to inject the bladder with warm water, get the fluid to pass, although the catheter was fairly beyond all possibility of prostatic obstruction." The patient was now in a much worse condition than when Dr. L. last saw him. He was exceedingly emaciated; the pain in the back and region of the bladder was constant and intense. He passed his urine more frequently than ever. It was occasionally bloody, but sometimes clear. On standing for a short time, it deposited a thick sediment, which consisted of lithates, mixed with amorphous organic matter. Nitric acid and heat showed a large quantity of albumen. His bowels were very much relaxed, and he was troubled with vomiting. The purging was arrested in the course of a few days, but the sickness continued. He took quarter-grain doses of morphia thrice a-day, which in some measure subdued the pain; but he gradually got weaker, and sank on the 2nd of January following.

Post-mortem Examination. The lungs and liver were healthy. The heart was of natural size; slight deposits were observed upon the mitral and semilunar valves. Both kidneys were enlarged, but the left much more than the right. The capsule was easily separable from the mass of the kidney. The tissue of the whole kidney was soft and easily broken down, but there was no conversion of tissue. The pelvis contained some puriform fluid, which was traceable down the ureter. Parts of the kidney presented granular degeneration. The coats of the bladder were firm, when grasped from the outside. It contained no urine. On opening it through the urethra, a loose organized mass of a yellowish colour was found free. Attached to a point near the neck of the bladder, was a granulated mass, highly injected, presenting portions of a red colour passing off into white. It was easily broken down with the knife, and yielded to slight pressure. Higher up the bladder, on one side of the fundus, another tumour presented itself, of larger size, but having the same character. The loose mass had evidently been separated from one of the portions still in connexion with the bladder. Dr. Lankester had not had the opportunity of examining these growths by the microscope; but no doubt could exist of their belonging to that variety of carcinomatous growths which have been designated medullary sarcoma, fungus hæmatodes, etc. The coats of the bladder were very much thickened. The prostate was considerably enlarged; and, on its being sliced, several points presented matter precisely similar to the growths in the bladder. The glands of the abdomen, the spleen, pancreas, stomach, etc., presented no trace of malignant disease.

Remarks. In cases of this kind, the general symptoms are often insufficient to afford a clear diagnosis. There are, however, some points with regard to the blood and other products in the urine, which may serve to assist our diagnosis. When blood flows after the introduction of the sound, or passes in small quantity from the urethra after the flow of urine has terminated, we may conclude that the hæmorrhage is not from the kidneys, but from the bladder. Sir Benjamin Brodie states, that it is not uncommon for small portions of the fungoid growth to be passed with the urine, which will discover the disease. This, however, does not always occur; and it was not observed in the case now related. It thus appears, that thus far we are without any absolute diagnostic of the presence of this disease. There is still, however, one mode of inquiry,—the microscope. At the time this case occurred to Dr. Lankester, we were not so well acquainted with the microscopical appearances of carcinoma as at present; and it appeared to him that the use of this instru-

ment afforded the most available means for diagnosis in this disease. Carcinoma in the bladder is generally of the softer kind, and as this organ is seldom affected by analogous formations, which occur on the external parts of the body, the diagnosis of malignant disease of the bladder is more difficult. Injections of warm water gave no relief in this case. Opium, as in so many other forms of malignant disease, seems to be the medicine which best alleviates the sufferings of the patient. Gallic acid, acetate of lead, etc., which act favourably in hæmorrhage generally, would probably be of service where the hæmorrhage was alarming in fungoid disease of the bladder.

Mr. Coulson agreed with Dr. Lankester, as to the difficulty of distinguishing morbid growths in the bladder. There was first the simple polypus, which might be of small size, or might occupy the entire cavity. There was, also, fungus hæmatodes, a very rare disease, and generally complicated with calculus. A man who had been well known about town, suffered from this disease, and had also numerous calculi. He sank at last from exhaustion. There was also the disease which was met with in Dr. Lankester's case, which he believed was medullary sarcoma. Mr. Coulson also mentioned the case of a gouty subject, who was suddenly seized with hæmorrhage from the bladder, complaining also of a wearing, aching pain in the loins. There was afterwards, almost invariably, blood in the urine, at first diffused through the fluid, and passed without pain, and subsequently in the form of coagula, with great pain. The discharge of blood suddenly ceased ; and he was then affected with the symptoms of chronic inflammation of the bladder, with indications of calculus. No stone could be discovered. There was great difficulty in passing the catheter, and moving it round the bladder ; while doing this, a portion of morbid growth came away, which proved to be malignant. He was not sounded afterwards. The use of the catheter was attended with exquisite pain. The patient died in twelve months, worn out by intense suffering. For ten or twelve days before death, the urine escaped involuntarily and without pain. The abdomen only was examined. The bladder and surrounding parts filled up the entire pelvis. The former was so soft, that it gave way in taking it out ; it was filled with a mass resembling cauliflower excrescence of the uterus. It appeared to have arisen from the mucous and sub-mucous tissue of the organ.

Malignant disease of the bladder is only relievable by opiates ; and the less done, the better for the patient. The diagnosis in this case was only obtained by bringing away a portion of the diseased growth. The microscope might certainly be of use by detecting the existence of nucleated cells ; otherwise there are no positive signs by which a malignant disease affecting the bladder can be detected before death, except from a fortuitous occurrence, such as was met with in his case.

The President directed attention to the means of arresting hæmorrhage from the bladder. A patient, under M. Dupasquier's care, an old man of seventy, passed daily a pint of blood for a long while, and used many medicines, including gallic acid in large doses, and the muriated tincture of iron, but without benefit. No disease of the bladder could be detected. Whether it were the effect of the drug, or of accident, no one could tell ; but the hæmorrhage ceased while he was taking the oxide of silver.

Mr. Nunn stated, that in a case of Mr. Simon's, of superficial carcinoma of the prostate, the microscope was employed, the malignant character of the disease discovered, and the catheter, in consequence, was not again passed. Sir B. Brodie had seen the case, and remarked that it was the first in which malignant disease of the urinary organs had been detected during life.

Mr. Kesteven mentioned a case of hæmorrhage from the bladder, which he published some time since in the *Medical Gazette*. The diagnosis of malignant disease was not clearly made out ; and some thought there was gouty disease, others stone. The tincture of the sesqui-chloride of iron was of most service. It was looked upon as malignant, because the hæmorrhage continued while the patient was at rest.

Mr. Hancock could only see a very great impropriety in sounding the bladder in a case of hæmorrhage from that organ, unless there were symptoms of stone, which in malignant disease of the bladder was not usual.

Dr. Sibson thought the microscope of more use in discovering the source of the hæmorrhage, than the presence of malignant cells. If it came from the coats of the bladder, it would not present the tubular casts from the kidneys. The source being discovered, would serve as a guide to the treatment. To relieve pain, he advised belladonua, or stramonium. Belladonna completely controlled pain; it was not necessary to give it as often as opium, as its action was more permanent; it required, however, to be carefully watched. It would be useful to give opium with it, as the combination of narcotics is more powerful than a large dose of any one singly.

Dr. Daniell, after making some remarks on the diagnosis, said that turpentine in small doses will often arrest renal and vesical hæmorrhage.

Mr. Gower said, that he had considerably relieved pain in two cases, very similar to those described by Dr. Lankester, by giving gum-arabic. The patients had consumed about a quarter of a pound weekly.

Dr. Lankester thought that medullary sarcoma and fungus hæmatodes were transition diseases, and still considered his case one of fungus. The principal malignant diseases of the bladder are of a soft kind, in which the cells easily break down, and are found in the urine. The finding of nucleated cells is, however, not a diagnostic sign, as they are met with in fibrous and other tumours, interspersed among other cells; when, however, these cells are very numerous, then we may conclude that malignant disease exists. We cannot, however, affirm that their absence is a proof of the non-existence of malignant disease; because the diseased growth may not have become broken down.

Saturday, February 2, 1850.

Francis Hird, Esq., President, in the Chair.

Caries of the Head of the Femur. Mr. Haynes Walton exhibited three specimens of Caries of the head of the Femur, removed during life, to show the alteration in form and structure, effected by morbus coxarius. The first was taken from a girl nine years old. In place of the head and neck, there was a rounded and spongy portion of bone, projecting little more than half an inch from the femur. She made a good recovery. The *second* was from a lad twenty years old. The head was nearly gone; the neck was of the natural size, but so soft that it broke in two during the operation. The *third* was from a boy eleven years old. Part of the head was lost, and the neck was shortened and reduced in size. Mr. Walton was anxious to discover some diagnostic signs by which dislocation could be ascertained. The change in the form of the bones he had shown, would cause all the symptoms of dislocation. The limb would be shortened and the trochanter elevated, and brought nearer the pelvis. From the position of the limb, nothing could be learned; it may be turned inwards or outwards; and the thigh may be flexed on the pelvis or extended.

Passage of a Plum-stone, several months after it had been swallowed, through a Fistula at the Umbilicus. Mr. G. B. Childs exhibited a plum-stone, which had escaped from a fistulous opening at the Umbilicus, after having been lodged in the intestines for five or six months. The patient, a boy four years old, had suffered from hooping-cough, measles, and scarlet-fever. The latter had been followed by dropsy, from which he recovered, and seemed to enjoy good health afterwards. Some months since, the umbilicus became swollen and red, and an abscess formed, which burst, and continued to discharge for several months. He was admitted into a hospital, where the opening was enlarged, and another made about two inches below it. He remained there a fortnight; and while in the hospital, feculent discharge oc-

curred from the lower aperture. When he came under Mr. C.'s care, there were two sinuses—one in the centre of the umbilicus, the other a little lower down : the latter yielded the fæcal discharge. On the 16th of last month (January), the plum-stone was discharged from the wound, after great suffering. After this, the fæcal discharge was greater ; and, on probing the wound, the instrument passed at least two inches backwards into the abdomen. The bowels acted freely, and the general health was pretty good. Did the abscess and fæcal fistula in this case arise from the presence of the foreign body in the intestine, or from the previous ill-health of the patient ?

On Inflammation of the Mammæ. By Mr. T. W. Nunn. After a few remarks on the common modes of treatment of Inflammation of the Mammary Gland, and their inadequacy to prevent suppuration, the author stated that he proposed the following plan. 1. To confine the patient to the horizontal position. 2. To prevent any extraneous irritation of the inflamed organ. 3. To envelope the breast with mercurial ointment spread on thin linen, and to cover this with a tepid poultice. 4. To support the gland by a suitable bandage, when the horizontal position cannot be maintained. 5. After the constitutional irritation has been allayed by a brisk purgative, effervescing salines, and proper regimen, to carefully watch the state of the pulse, and look for the proper moment for the administration of tonic medicines. 6. Wine and stimulating articles of diet should be allowed only with great caution. In the majority of cases, Mr. Nunn was of opinion that, after the first day or two, the patient needs bark and ammonia, quinine and iron, rather than depletive drugs. The strength of the mercurial application should be adapted to the condition and natural texture of the skin covering the gland. In some instances, the unguentum hydrargyri fortius will not be found too powerful ; in others, it will be necessary to dilute it with an equal proportion of ceratum resinæ. A combination of the extract of belladonna, hyoscyamus, or opium, in the proportion of ʒi. to the ℥i. of ointment, will be most effectual in allaying the intense agony frequently complained of. The leading idea in treating mammary inflammation, should be the prevention of suppuration : when that cannot be avoided, the attempt should be made to render it as circumscribed as possible. Mr. Nunn opposed large incisions of mammary abscesses, and thought the practice of laying open extensive sinuses of the breast uncalled for. The tissue of the gland, he averred, should not be cut ; and he quoted Dr. Gibson of Philadelphia, to show that sinuses may be obliterated by pressure. The importance of preserving the integrity of the gland, he (Mr. Nunn) observed, cannot be overrated. He related several cases in illustration of his position.

Case i. A young woman, aged twenty-two, who had been confined with her second child about a month, applied to Mr. Nunn, with her breast in a state of intense inflammation. She had been applying poultices and hot fomentations for two or three days, without any relief. Her tongue was white ; bowels confined ; much thirst ; pulse rapid, but weak ; skin moist. She was ordered a saline aperient of magnesia, and a drachm of decoction of cinchona twice a day ; also to have mercurial ointment, diluted with resin cerate, applied to the breast. In ten days, the redness, heat, and swelling, had much diminished; and the constitutional symptoms were improved. The ointment gave great ease, and had enabled her to sleep ; it had not produced any unpleasant effects. She was ordered to apply the ointment more sparingly, and to take quinine and porter. In a few weeks, the disappearance of some hardening which had remained, indicated a satisfactory termination of the case.

Case ii. M. R., aged thirty-nine, had chronic inflammation of the right breast, for which she had been subjected to a variety of treatment. The swelling was principally confined to the lower half of the organ ; there was little redness, but much tenderness. Mr. Nunn ordered mercurial ointment, with a drachm of opium to the ounce, to be rubbed in ; and the patient to take

ammonia, with cinchona and conium. The ointment gave rapid relief, and the patient soon recovered.

Case III. M. M., aged twenty-one, applied to Mr. Nunn, about six weeks after delivery, with an acutely inflamed breast. The mercurial application was ordered. She neglected to report herself at the time appointed, but applied the ointment for a week. The system became affected: but no actual mischief appeared to have been done. This was the only case in which the mercurial application had effected more than was desirable; and though suggesting caution in its employment, Mr. Nunn did not consider that it formed an objection.

Case IV. M. A., aged forty, had mammary abscess, which had been treated by poultices, etc. It had burst, and left a circular ulceration of the size of half-a-crown. The granulations on the surface of the gland were weak and flabby, and covered with a copious secretion of pale pus. Mr. Nunn discovered a large flat sinus, extending a considerable distance beyond the margin of the ulcer; the discharge from it was very abundant, and depressing to the patient. The poultices were discontinued; bark and ammonia were administered, with a more generous diet. The sinus healed without the necessity of laying it open, and the patient was restored to health.

The author pointed out the importance of attending to the peculiar relation in which the mammary gland stands to the economy, and to the effects produced by inflammation of the trabecular and of the secreting structures. It is important to the mother, as well as to the child, that the integrity of the organ should be maintained. Mercury, in virtue of its efficacy in checking the tendency of blood to deposit fibrin, and of its property of causing the reabsorption of effused lymph, seems to be strongly indicated in the disease under consideration. Its benefit is obvious, when we reflect that by the formation of an abscess in the substance of the gland, the ducts are destroyed, and the portion of the gland becomes isolated. For a time, it may give no inconvenience; but, under the excitement of lactation, it may become the seat of a fresh attack of inflammation. This, Mr. Nunn observed, must have been met with by every practitioner of experience. In conclusion, Mr. Nunn said that he would not be understood to advocate the use of mercury in all cases of mammary irritation; but he believed the plan he had recommended likely to prove of great service.

Mr. I. B. Brown said, that one great cause of inflammation of the breast was, the not applying the child to the breast early enough. This cannot be done too soon after delivery. Stagnation of the milk in the breast acts as an irritant, and causes inflammation. It can be overcome by general remedies, —the horizontal position, keeping the breast supported, causing the skin to act, and by warm-water dressing. He objected to drastic purges. Parturient women cannot bear to be lowered, and ought not to be subjected to the depressing action of mercury. Mammary inflammation was often caused by keeping the patients on gruel, when they required an improved diet. The excess of fluid was bad. Most patients subject to inflammation of the breast were of the strumous diathesis, and could not bear mercury, which would deteriorate their milk, and injure their offspring. Mercurial ointment might be useful in chronic mammary inflammation; but it could not be used with safety, he thought, in an acute attack.

Mr. Gay did not think the lacteal vessels were implicated in the disease; the abscess was situated in the cellular tissue; for, after recovery, the breast generally resumed its proper action. He was in favour of the early use of the lancet in opening the abscess, to prevent the burrowing of the matter, and the formation of sinuses, which are difficult to treat. The fascia, in some cases, becomes more dense, from the inflammatory action, and thus prevents the abscess from bursting through it.

Dr. King would be inclined to give Mr. Nunn's treatment a trial.

Mr. Greenhalgh had tried the plan, and found it successful.

Mr. Hancock thought that mercury would be useful in cases of occlusion of the lacteal duct, as it would be probably caused by effusion of lymph, and mercury is the best absorbent. His practice was, to keep the child to the breast as long as possible; and when that could not be continued, to draw off the milk artificially. Mr. Nunn's plan was not original; for he (Mr. H.) had used mercurial plaster to the breast for the last five or six years, with an opening in it for the discharge to pass away. He did not consider these cases as instances of phlegmonous, but of irritative inflammation. Hyoscyamus was of great service. He objected to the early opening of an abscess, unless there be great constitutional disturbance: when he did use the lancet, he avoided incising transversely to the ducts, so as not to wound them.

Dr. Murphy said, that no one plan of treatment could be followed as the best, in all cases of inflammation of the mammæ. Mammary abscess might be sthenic or asthenic. In strong, healthy young women, where the milk, from some cause, was not withdrawn, he was satisfied, that if proper antiphlogistic measures were adopted, there would be no reason to fear abscesses forming. He advised the combination of tartar emetic with the neutral salines. The feelings of the patient should be consulted, as to the use of warm or cold applications. In weak and irritable women, if purgatives and tartar emetic were used, the irritation would be increased, and abscess after abscess would form. Such patients require tonics and support. If, on the other hand, a robust, plethoric woman, be placed on full diet, after parturition, mammary abscess will be very apt to occur.

Dr. Manson stated, that at the General Lying-in-Hospital, it had been the custom for the last twenty years, when the breast became hard and knotty after parturition, to rub in freely the linimentum ammoniæ, as a preventive of suppuration; and so successful had this practice been, that they had scarcely ever had a case of mammary abscess.[1] The liniment is rubbed in for ten minutes or a quarter of an hour, until the breast becomes soft and supple. He thought it acted as an emollient and evaporating lotion, while the stimulant quality of the ammonia was evidenced in the reduction of the quantity of the milk. When the inflammation is so severe, that friction with the liniment cannot be used, he thought the mercurial ointment might be tried, with a poultice over it. In a very severe case, chloroform was given before friction was used, and successfully; the patient recovered without suppuration.

Mr. Coulson recommended the treatment of mammary inflammation by pressure; strips of soap plaster, encircling the breast, being applied on the same principle as in orchitis. He considered it eminently serviceable in the incipient stage, perhaps not so much so when the disease is more advanced, but again advised it after the abscesses have burst, and sinuses have formed. The advantage attending this plan is, that the patient can go about her avocations while under treatment.

Saturday, February 9, 1850.

Francis Hird, Esq., President, in the Chair.

Malignant Disease of the Ovaries. Mr. Greenhalgh exhibited a very interesting specimen; and stated, that the history of the case would be given to the Society on some early occasion.

Treatment of Stricture of the Urethra by Perineal Incision. Mr Henry Smith read a paper upon this subject. The principles of practice which he wished to establish, were three in number, viz:—

1. Strictures so obstinate as not to allow the passage of any instrument, and so complicated as to resist the ordinary modes of treatment, should be treated by free Perineal Incision.

[1] A more common, and, so far as our experience goes, an equally successful method, is frequent gentle friction with warm olive or other bland oil. Editor.

2. Strictures which permit the passage of the smallest instrument, ought not to be cut, because it has been found that this operation is not unfrequently followed by fatal results.
3. Strictures of a bad kind, which do not admit of cure by simple dilatation, may often be treated successfully by the potassa fusa, which, being safer than incision, ought to be tried before that operation is resorted to.

The author dissented from, and strongly condemned the practice advocated by Mr. Syme, of freely dividing with the knife strictures which, though obstinate, permitted a bougie to enter.

The discussion on Mr. H. Smith's paper was deferred.

Auditors' Report. From this document, it appeared that the balance in hand was 73*l.* 18*s.* 3*d.*, after an expenditure of 92*l.* 15*s.* 2*d.* The total receipts during the year were 166*l.* 13*s.* 5*d.* The item 23*l.* 19*s.* 11*d.*, for printing the Abstract of the Proceedings, seemed almost an unnecessary waste of money, considering that the journals give much better accounts of memoirs and discussions.

Nomination of Candidates for Office. In accordance with the laws of the Society, the President intimated that any Fellow might propose those whom he thought most eligible. The offices to become vacant, were those of a President, two Vice-Presidents, and five Members of Council. Dr. Murphy was nominated as President, and Dr. A. B. Garrod and Mr. James F. Clark, as Vice-Presidents. For the five vacancies in the Council, numerous Fellows were proposed; but several having withdrawn, they were ultimately reduced to nine, viz:—Dr. Sibson, Dr. Cormack, Dr. Tilt, Dr. Tyler Smith, Mr. Hird, (retiring President) Mr. B. Travers, jun., Mr. Greenhalgh, Dr. Lightfoot, and Mr. H. Walton.

Union of the Society with the London Medical Society. The President gave a detailed account of the negociations now taking place between the Councils of the two bodies. The proposed amalgamation has already been noticed by us (p. 214); but this was the first occasion on which it was formally announced to the Fellows.

Saturday, February 16, 1850.

Francis Hird, Esq., President, in the Chair.

Chloroform in Abortion. Mr. I. B. Brown mentioned a case of abortion at the sixth week, in which, by subjecting the patient to the influence of Chloroform, he was enabled to remove the ovum, previously grasped by the os uteri; the hæmorrhage ceased. Mr. Brown thought that the treatment which he had adopted in this case, would be found generally applicable to others of like nature.

Dr. Tyler Smith had never seen a case of abortion in the early months, in which he could not get away the ovum by means of an enema, containing some stimulating ingredient, such as turpentine. He had seen some remarkable cases in which this treatment had been most successful. In one case which he had attended, with Dr. Cormack, a lady's life had been saved, when at the last extremity, by this proceeding. A stimulating enema invariably produced reflex dilatation of the os uteri, and contraction of the uterus itself.

Dr. Cormack, in reference to the case mentioned by Dr. Tyler Smith, said, that he was quite satisfied that the turpentine enema had saved the patient from impending death. He greatly approved of the practice advocated by Dr. Tyler Smith; and another illustration of its value was afforded by the case which he had detailed to the Society on the 19th January. [*Vide* London Journal of Medicine *for February*, p. 203.]

Adjourned Discussion on Mr. H. Smith's Paper on Stricture. The discussion was animated and interesting; but as all the points adverted to have, in one form or another, been recently laid before the profession, it is not necessary to give a detailed report of the speeches.

Dr. Knox, (late teacher of anatomy in Edinburgh,) in a lively address, severely criticised Mr. Syme's recent work on Stricture. He thought that a verdict on his practice could not yet be given, as time might yet show that the cases boasted of as cures, were, after all, not cures; it was not temporary amendment, but permanent relief, which was entitled to the name of a cure. Some surgeons were too quick—too quick—in publishing their successful cases.

Mr. Wade gave an exposition of his views regarding the use of potassa fusa, and replied to certain passages in Mr. Syme's recent work.

Mr. H. Walton, Mr. G. B. Childs, and Mr. Acton also addressed the Society.

Election of Office-Bearers to fill the Places of those retiring in rotation. At 10 o'clock the ballot closed, and the following was announced as the result:—President—Professor Murphy: Vice-Presidents—A. B. Garrod, M.D.Lond., and J. F. Clarke, Esq.: Councillors—Francis Hird, Esq., Francis Sibson, M.D.Lond., F.R.S., Benjamin Travers, Esq., jun., John Rose Cormack, M.D.Edin., F.R.S.E., R. Greenhalgh, Esq. The above are the *new* office-bearers; and along with the following of the old list, constitute the Executive Council:—Vice-Presidents—E. Lankester, M.D., F.R.S., J. F. Marson, Esq.: Treasurer—Augustus Sayer, M.D.: Honorary Secretaries—S. W. J. Merriman, M.D., C. H. F. Routh, M.D.Lond.: Councillors—W. Harding, Esq., F. R. Manson, M.D.Lond., T. H. Tanner, M.D., W. R. Rogers, M.D., W. Harvey, Esq.

The Retiring President, Mr. Hird, having left the chair, Dr. Chowne proposed that Dr. Murphy should take it in capacity of Vice-President, that advantage might be taken of the crowded meeting, to mark the high appreciation which the Society had of the eminent services rendered by Mr. Hird, during his time of office, which would terminate at next meeting, when the minutes of the present had been confirmed. The proposition was carried by acclamation; as was likewise a formal vote of thanks to Mr. Hird, to which that gentleman replied in a few elegant and hearty sentences. At the conclusion of his speech, the Fellows rose *en masse*, and maintained, for several minutes, the most enthusiastic cheering.

MISCELLANEOUS INTELLIGENCE.

Royal Medical and Chirurgical Society. For some days past, it has been currently rumoured, that at the Election of Office-bearers on the 1st March, an attempt will be made to modify the House-list in some of its leading features. The extent to which this endeavour may be supported, will probably form but a feeble indication of the degree of dissatisfaction which prevails; as, though the majority of the Society is notoriously adverse to the present system of management and distribution of honours, yet to obtain an amount of co-operation sufficient to cast out any one of the names published by the council, can hardly be expected. To accomplish this, more than a hurried organization is required. Whatever be the result of the ballot, and whatever be the character of the discussion which may precede or follow it, we sincerely hope it may conduce to the permanent good of an Institution, which contains within it all the elements of greatness and utility; and that from this day henceforth there may be secured an entire community of feelings and interests between the ruling and the other Fellows Antagonism between the rulers and the ruled, may be a normal condition in Royal Colleges founded in, and for, a by-gone age; but it is neither necessary nor natural in an institution, with so free a constitution as the Royal Medical and

Chirurgical Society. As we said on a former occasion, (p. 178,) the most needed reform is to abolish the noxious and illegal bye-law, which gives birth to the House-list: and let there be *an open nomination by the Fellows*, the ballot determining the election, as appointed in the charter, and not being a mere farce, or necessitating a troublesome concert, when others than those named by the Council require to be brought forward. There can be little prosperity, or brotherly feeling, in the Society, till the President and Council are the free choice of the Fellows, and the selection of papers for publication be impartial.

The Royal College of Surgeons of England is at present said to be in a peculiar position with regard to its treasury, and to the increased probability of a rival College being sanctioned by Government. This measure, it is to be hoped, may not be required; as, if an independent College examine in Medicine, Surgery, and Midwifery, the General Practitioners, who now in legions join the College of Surgeons—only (as they say) to be repudiated—would for the future enrol themselves in the new College, by which they would be fostered, and in which they might rise to professional distinction, apart from seniority or favour. There is no need of new Colleges, if the old ones were adapted to the age we live in, and to the more general diffusion of sound professional knowlege. As the general practitioners are every day becoming a more educated and scientific body, they can no longer be treated as their predecessors, the druggists, of 1815. Time, perhaps, may yet adjust all questions of Medical Reform; but, in the present transition state of the profession, it is incumbent on all to study conciliation, and, if need be, to make personal sacrifices for the common good.

Royal College of Surgeons of Edinburgh. A bill is now passing through the House of Commons, entitled—"A Bill for enabling Her Majesty to grant a new Charter to the Royal College of Surgeons of Edinburgh; and for conferring farther powers on said College." This measure relates, we believe, entirely to private arrangements, and not to public questions. It provides for bringing to a close the existing Widows' Fund, and separating the College from the Incorporated Trades of Edinburgh.

The Faculty of Physicians and Surgeons of Glasgow, we are sorry to learn, are applying for a new Charter, and increased privileges, as a licensing body. One incorporation, with the licensing power for the United Kingdom, would be sufficient; but with a College of Physicians and Surgeons in Scotland, the Glasgow Faculty is more than superfluous. It might, with great propriety, be merged in, or united with, one or other of the Colleges in Edinburgh.

Royal Edinburgh Maternity Hospital. The annual meeting of the Governors and friends of this Hospital was recently held,—the Lord Provost in the Chair.

Mr. Buchanan, S.S.C., the Secretary, read the Report of the Directors, which stated that, owing to a falling off in the amount of subscriptions, they had been under the necessity of drawing on the funds in the Bank to the extent of £60. During the past year, 687 persons had had medical attendance during their confinement; and 259 had, in addition, received shelter and maintenance within the Hospital. The expenditure amounted to £385. Two deaths had occurred during the year.

Bishop Terrot moved a resolution, to the effect that the Report be adopted and circulated, and recommending the charity to the more liberal support of the community; and suggesting that, since Edinburgh had become so distinguished in the obstetric art, there should be something more definite than a simple recommendation for increasing the subscriptions, by bringing the Institution under the notice of those strangers who were now continually resorting to Edinburgh. Dean of Guild Wilson seconded the motion, which was unanimously agreed to.—[*From an Edinburgh Newspaper.*]

Meeting of the Conference respecting Medical Reform. A meeting of the delegates of the various medical associations appointed to watch over the Medical Reform Question, was held on Tuesday, February 19th, at the Hanover-square Rooms, Nathaniel Clifton, Esq., in the chair. The answer of the Council of the Royal College of Surgeons to the Council of the National Institute, was submitted to the meeting.

The Chairman said that this document was only another illustration of the shuffling conduct of the College Council. It was for the Conference to decide, whether they would put up with such treatment any longer.

Mr. Bottomley said that it was now quite clear that we must have a separate and independent college, possessing full powers in every respect. It would be quite absurd to attempt anything further with the Council of the College. He should move, that "after the receipt of the letter from the Council of the College of Surgeons, now read, it is inexpedient to make any further application to that Council."

Mr. Bowling seconded the resolution.

Dr. Webster (Dulwich) said that no one could now doubt what was the course to be pursued. With respect to the letter from the Council of the College of Surgeons, it was unkind, uncourteous, unfriendly, and unjust, and calculated to produce great dissatisfaction and angry feelings throughout the great body of the profession. They had gone to that Council, to entreat them to do justice to the great mass of the surgeons of the kingdom, and this was the answer! If the Council had agreed to all that the Conference required, it would have left them, after all, in an unpleasant position. The profession must be re-modelled, so that equal privileges should be granted to all who had passed an adequate examination. Many gentlemen in practice were not members of the College of Surgeons in London, but doctors of medicine, licentiates, and Fellows of other bodies; and these should be privileged to practice; they were received into the army and navy, and why not to other public offices? If they all united, there could be no doubt of their attaining their object. With respect to the assumption of the Council of the College of Surgeons, that they had the full control over the examination of surgeons, and were the only surgical body in the kingdom, he had to state that the Scottish Universities had the power, after examination, of granting a diploma of Magister Chirurgiæ, and he believed the English Universities had the same. The London University, at all events, by their Charter, had the power, and did examine, in "medicine, surgery, midwifery, and pharmacy," and he believed, could grant degrees in these separate departments. On what grounds, then, did the College of Surgeons assume their sole power over examinations in surgery? It was evidently a mere assumption. This was a precedent, at all events, with which they could go before Sir George Grey. (Cheers.)

The resolution of Mr. Bottomley having been put, was carried unanimously.

It was stated by Mr. Ancell and Mr. Bird, that the Council of the National Institute had, on the part of that body, answered the letter of the Council of the College of Surgeons: that letter would shortly be published. They might observe that the Council of the National Institute were now determined to obtain a new College, with full right to examine in all branches, and to be independent of all other bodies. That Council, wishing to act on the principle of mutual concession, had, at the suggestion of Sir George Grey, agreed to certain principles; but this was under very different circumstances from those in which they were now placed; and the consequence was, they must agitate for an independent College. (Great cheering.)

The following resolution was proposed, seconded, and unanimously carried:—

"That the resolution, empowering the deputation to wait upon Sir George Grey, passed at the last meeting of the Conference, be acted on; and that a letter be written to Sir George Grey, requesting him to appoint a time to receive the deputation."

Several gentlemen having expressed their determination to carry out the objects of the meeting, the Conference separated, after making arrangements for future action. [Abridged from the *Lancet*.]

Cholera Services. Testimonial to Mr. R. H. Whiteman, Surgeon, Putney. On the 16th of January, Mr. R. H. Whiteman was presented with a valuable testimonial, purchased by the subscriptions of numerous inhabitants of Putney. It consisted of a handsome silver tankard and salver, and a gold watch, upon each of which was engraved an inscription, indicating the sense entertained by the donors of the "zealous and efficient services rendered by Mr. Whiteman, as the medical officer of the district, during the late visitation of cholera." The presentation was prefaced by an address by the Rev. Edward East, the officiating minister of the parish: and Mr. Whiteman made a suitable reply.

Source of the Diplomas of London Physicians. A correspondent of the *Provincial Medical and Surgical Journal*, has given the following analysis of the sources of these honours of medical men, whose names appear in the London department of the *Medical Directory*. It will be observed, that 509 have a degree of M.D., and 45 that of M.B. They are thus distributed to the various universities.

Edinburgh	M.D.	178
London	M.D. 36 M.B. 30	66
Oxford	M.D. 24 M.B. 1	25
Cambridge	M.D. 38 M.B. 8	41
Dublin	M.D. 6 M.B. 5	11
St. Andrew's	M.D.	68
Glasgow	M.D.	35
Aberdeen	M.D.	30
Paris	M.D.	15
German	M.D.	59
Various Continental Universities—Austria, Prussia, Italy, etc.	M.D.	13
America and U.S.	M.D.	6
Nondescript (*i. e.*,) the degree being given without the University being mentioned ...	M.D. 6 M.B. 1	7
	Total.....	554

Provident Dispensaries. Mr. H. L. Smith, of Southam, proposes to renew the discussion of his favourite scheme, and has announced his intention of spending some months in London, that he may the more easily make known his opinions regarding, and his experience of, these admirable institutions, of which he may be said to be the father. We have reluctantly been obliged to defer the publication of Mr. Smith's lecture for another month.

Royal Society. The abolition of the Committees has given great satisfaction to the majority of the Fellows: and is likely to conduce to the prosperity of the Society.

APPOINTMENTS.

Cooper, White, Esq., appointed by the Queen, Senior Surgeon to the Artillery Company of London.

Freer, Dr., appointed Physician-Accoucheur and Lecturer on Midwifery in Middlesex Hospital, in the room of Dr. West, resigned.

Jeaffreson, Henry, M.D., appointed by the Queen, Physician to the Artillery Company of London.

Latham, Dr., elected President of the Pathological Society of London.

Law, Charles, Esq., appointed by the Queen, Surgeon to the Artillery Company.

Stewart, Dr. A. P., elected Assistant-Physician to the Middlesex Hospital, in the room of Dr. R. G. Latham, resigned.

Winslow, Dr. Forbes, Editor of the *Journal of Psychological Medicine*, elected a Fellow of the Royal College of Physicians of Edinburgh.

OBITUARY.

Buckle, Dickins, Esq., Deputy Inspector General of Hospitals, at Newport, Isle of Wight, aged 88, on 15th February.

Craven, Robert, Esq., F.R.C.S.E., Surgeon to the Hull General Infirmary, at Hull, on the 24th January.

Dixon, Thomas, Esq., many years Surgeon of the Hereford Regiment, at Park Place, Chelsea, aged 82, on 14th February.

Ferguson, Duncan, Esq., late House-Physician to King's College Hospital, at 32, Sidney Street, Brompton, after a severe attack of typhus, aged 26, on 1st February.

Fitton, Dr., drowned in the wreck of the *Richard Dart*, convict-ship.

Gale, Mr., Surgeon, drowned in the wreck of the *Richard Dart*, convict-ship.

Good, Samuel, Esq.. one of the Surgeons in Ordinary, to H.R.H. Prince Albert, and formerly Surgeon-Major to the Scots Fusilier Guards, at Worcester, on 22nd January.

Lowe, Richard, Esq., Senior-Surgeon to the Bristol Infirmary, after a severe illness, on the 9th February.

Oxley, Edward, M.D., at Exeter, of chronic bronchitis, aged 80, lately.

Reynolds, Cornwall, Esq., Surgeon R.N., at Mare Street, Hackney, on 13th Feb.

Swinson, George, Esq., Surgeon, at his residence, Church Lane, Handsworth, aged 85, on 11th February.

BOOKS RECEIVED.

Batchelder on Cholera. New York: 1849. Daniell (Dr. W. F.), Medical Topography and Diseases of Guinea. London: 1849. Instructions for Making Unfermented Bread. By a Physician. 16th Edition. London: 1849. Mackness on the Climate of Hastings. London: 1850. Miller (Dr. James) on the Kidney in Scarlatina. London: 1850. Tenth Annual Report of the Crichton Asylum. Dumfries; 1849. Transactions of the American Medical Association. Vol. II. Philadelphia: 1849.

ERRATUM.

In the February number, p. 139, line 19 from the bottom, for "*bee-hive*", read *bechic*. The latter term is sufficiently absurd; but, from the misprint, we have represented the author as writing absolute nonsense.

TO CORRESPONDENTS.

Unfermented Bread is wholesome: and, if common care be used, the fear of its containing arsenic need not exist, as we will show next month.

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ORIGINAL COMMUNICATIONS.

ON THE PROGNOSIS AND TREATMENT OF ORGANIC DISEASES OF THE HEART.

By CHARLES J. B. WILLIAMS, M.D., F.R.S.

THERE is perhaps no group of internal structural diseases, which are more accurately distinguished by their physical signs than those of the heart. The modes of determining the condition and action of the muscular substance of the organ, made known by Corvisart, Avenbrugger, Laennec, and their successors, and the method of interpreting the valvular murmurs, which I first proposed in 1835, have rendered the Diagnosis of the more common ORGANIC DISEASES OF THE HEART comparatively easy and accurate. But the general knowledge of the PROGNOSIS and TREATMENT has not advanced in an equal degree; and mistakes are often occurring, in consequence of the misapplication of the long prevalent notions respecting the prospects and treatment of heart disease to cases which, although correctly diagnosticated as such, are not of the grave nature which is apprehended. It is a satisfactory result of extended experience on this subject, that organic lesions of the heart, even of considerable amount and complexity, are not incompatible with prolonged life, and, under favourable circumstances, with a moderate share of health and comfort. For example: About fifteen years ago, I was consulted by a medical man of middle age, who presented formidable signs and symptoms of obstructive and regurgitant disease of the aortic orifice, with greatly enlarged heart, and dilatation of the ascending aorta. The symptoms, at that time, were not only those of inordinate action of the heart, but the functions of the brain were occasionally impaired; exertion or emotion sometimes causing confusion of thought and indistinct articulation. Yet this gentleman has been engaged in a pretty extensive country practice ever since; and within the past year, when I last heard of him, he had not abandoned his professional duties. And when at length death does occur in such cases, I have been often surprised at the enormous amount of disease that had gradually accumulated, yet sometimes without causing those alarming and distressing sufferings, which occur in other instances, where the lesions are much less consi-

derable. The largest human heart that I ever saw, weighed, when empty, 40½ ounces, and measured in circumference of the ventricles, 14½ inches; in length, from arteries to apex, 8½ inches, and in thickness of the walls of the left ventricle, from 1 to 1½ inches; yet this monstrous organ carried on the circulation of its owner, a man of fifty years of age, with so little disturbance, that, until within a few weeks of his death, he was able to perform his duties as hall-porter in the town-house of a nobleman, and he had not failed to partake of the abundance of creature-comforts which such situations commonly afford.

In many other examples, I have felt the heart's impulse extending from the midsternum to the seventh or eighth rib, beyond the line of the left nipple; I have heard the harshest and loudest valvular murmurs; and, in the most tranquil state of the circulation, the walls of the chest have been visibly shaken by the strong exaggerated movements of the diseased organ; yet the patient has complained of little or no suffering, and, under favourable circumstances, has survived, and even enjoyed life, for years.

With such instances we may contrast others, in which, with signs far less prominent—an impulse rather tumultuous and irregular, than extended and violent, and murmurs rather peculiar and deep-seated than loud or long—the distress and disturbance of the circulation have been sudden and serious, and death has occurred within a few days or weeks from the first development of the symptoms.

It is, then, evident, that the pronounced character of the signs is no measure of the severity or danger of a disease of the heart; and the Prognosis is to be determined by a consideration of other circumstances. My experience leads me to point out the following, as the most significant on this subject; and I shall afterwards show, that they are equally important in relation to the treatment. They may be conveniently grouped under the following heads:—

1. Circumstances relating to the Heart itself.

2. Circumstances relating to the state of the Blood, and to its General Circulation.

Each of these heads will need some illustrative comments.

1. A Structural Disease of the Heart may be considered serious and dangerous, in proportion as it impairs the power of the organ to carry on the circulation. We may judge of this power, both by the physical signs of the action of the heart itself, and by the condition of the circulation at large. The power of the heart to carry on the circulation is represented by its natural sounds; and so long as they are distinct, with their proper characters, of comparative dulness or prolongation of the first or systolic, and clearness or shortness of the second or diastolic,—then, no matter how loud the accompanying murmurs, the heart is doing its work,[1] and there is little ground of present alarm. If, on

[1] The true causes of the natural sounds of the heart have been so fully and satisfactorily demonstrated by the experiments which I conducted in 1835, and which have been subsequently repeated and varied by numerous observers, in Europe and America, that it seems very strange that much difference of opinion should exist about them. Yet, every now and then, we hear of new explanations proposed, suggested by some crude experiment or observation of a monstrosity. A curious instance of the latter, is the account of the sounds of the heart given by M. Cruveilhier, derived solely from the observation of the heart of a new-born infant, which,

the contrary, the natural sounds are indistinct, or considerably altered, being too faint to be audible in the usual position, or superseded (not merely masked) by abnormal murmurs,—then, whether there be loud murmurs or not, whether there be palpitation or irregular action or not, whether the impulse be strong or weak, it may be inferred that the heart's action is seriously impaired; and the lesion must be considered of a dangerous kind.

I have notes of more than a score of cases, such as the following:— A physician of eminence was consulted on account of a young lady, who had a slight pain in the chest, with moderate palpitation. On applying his ear to the chest, he heard so loud and harsh a cardiac murmur, that he was alarmed, and recommended that I should see her. On examination, I found a very loud, grating systolic murmur, having its greatest intensity to the left of the sternum, between the second and third ribs, where there was a palpable thrill. According to Dr. Hope's rules of diagnosis, this must have been situated in the pulmonary artery; but finding the murmur distinct also in the carotids, I considered it to be in the aortic orifice; this opinion was confirmed by a perceptible thrill in the pulse. But it is more to the present purpose, that this murmur, loud as it was, did not supersede the natural double sound; and the impulse, although stronger and more heaving than natural, was not far beyond its proper position. I judged, therefore, that there was no present danger; and the regularity and moderate frequency of the pulse, as well as the absence of other serious symptoms, pointed to the same conclusion. This lady had some years previously suffered from some inflammation in the chest, and had ever since felt more or less palpitation on over-exertion. Such an exertion was the cause of her present ailment, which, to her own feelings, subsided after some days' rest and the use of very simple remedies; yet the murmur remained nearly as loud as ever. After being directed to pursue the rational plan of caution against all circumstances likely to derange the circulation or general health, this lady returned to the country quite well, and pursued her usual occupations and amusements. This was six years ago; I have seen her three or four times since, enjoying her usual health; but the murmur remained nearly as loud as ever. In this case, I consider that there was a small body projecting into the aortic orifice, and that, although causing noisy vibrations in the current, it did not oppose the passage of the blood sufficiently

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from deficiency of the walls of the chest, lay exposed to view. Some years ago, I saw a precisely similar case at Bristol, with Dr. Symonds and Dr. O'Brien; and to show how little observations in such a case are to be relied on, I may state, that although we were all well practised in the examination of the heart, we could not agree as to the order and succession of the motions and sounds in the turbulent little object before us. In fact, with a heart beating from 130 to 160 in the minute, and in continual motion, it is not possible accurately to analyse the visible or audible phenomena. It is no wonder that, in such a case, M. Cruveilhier should deny that there is any period of rest; but I do wonder that he should have applied the same inference to a healthy heart, soberly beating some 60 or 70 per minute. All my best observations were made on the hearts of large animals, when they were beating slowly but vigorously, and every movement and sound could be deliberately noticed. Under such circumstances, the true relations of the motions and sounds soon display themselves clearly; and being once well perceived and understood, the phenomena become familiar and easily appreciable, even in cases of greater difficulty.

to disorder the proper action of the heart and its valves. Hence these, in their usual transition from slack to tight, in systole and diastole, still produced their natural sounds; which were thus a proof of the sufficient integrity of the heart in its functions.[1]

The following case of regurgitant aortic disease bears on the same point. A man, aged about thirty, who had formerly suffered from acute rheumatism, was admitted into the hospital for a slight ailment, attended with palpitation. The remarkable feature of his case was, a very loud musical murmur, of a cooing tone, following the second sound. Although most intense at and near the midsternum, it was distinct in every part of the chest; it could be heard not only in the arteries of the neck, but faintly even in the radial artery of the wrist. This patient was quite a stethoscopic curiosity, and was kept in the hospital on that account, rather than because he required special treatment. Accordingly, the natural sounds of the heart were quite distinct,—proving a fair performance of the natural function; although the systole, in its duller sound and extended and lifting impulse, implied some degree of hypertrophy of the left ventricle. As far as regarded the heart disease, therefore, in spite of the loudness of the morbid sound, the prognosis was not unfavourable; and we learned from his history, that for several years the noise in his chest had been noticed, when his health had not materially suffered. It happened, however, unfortunately, that he took a prevailing typhus fever, and died in the hospital. On examination of the body, the ventricles were found moderately enlarged and thickened, and the valves all healthy, except the aortic, one of which had the free margin neatly retroverted, so as to leave a fine, smooth chink for regurgitation. Some of those present at the examination, expressed themselves disappointed at finding so little lesion to account for so remarkable a sound; but, considered acoustically, it was precisely calculated to explain the sign, by affording a narrow slit for a uniform refluent jet, producing the rapid, equal, and prolonged vibrations, which constitute a musical tone.

Instances of noisy mitral regurgitation, without dangerous heart disease, are still more common. I have a great many patients on my books, whom I have occasionally seen for several years past, who have the systolic murmur below the left breast, which, in 1835, I proved to be characteristic of mitral regurgitation; and which, provided it merely accompany, and do not greatly supersede the natural double sound of the heart, is by no means so formidable a sign as is generally supposed. In some of these cases, the patients complain less of their heart than of their breath, or their digestion, &c.; in others, nervous palpitation or pain is a troublesome symptom, and aggravates the sufferings and fears of the invalid: but none of these symptoms are adequately proportioned to the cardiac lesion; and they may come and go, whilst this is constant.

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[1] This is my explanation of the natural sounds, inferred from the experiments before referred to. The ventricles, with their valves, at each systole, are suddenly tightened on the contained blood, and thus produce the first sound, which is more or less prolonged till the vibrating, and therefore sonorous tension, ends in the diastole: then the ventricles are relaxed, but the parts suddenly tightened now are the arterial valves, which simultaneously closing under the recoiling column of blood, give the second or diastolic sound.

But so long as the natural sounds of the heart are distinct, and the impulse does not spread far beyond its natural limits, although the murmur be loud and the symptoms distressing, we need not despair of amendment and restoration to moderate health.

In all cases, however, in which the existence of a valvular lesion is proved by the persistence of a murmur, the prognosis must take into account not only the present amount of the lesion, but what it is likely to become; whether it be stationary or progressive; and whether, although now it do not seriously affect the ordinary work of the heart, as evidenced in its motions and sounds, it may not be so increasing, as to tend to interfere with them, and thus to develop dangerous disorder. To determine this point, we have to consider the recent history of the case, and watch its progress for some time. Thus, if symptoms of disordered action of the heart have manifested themselves only recently, in consequence of an accident, a sudden mental shock, or an inflammatory attack in the chest, then it is possible that the disease, although moderate now, may be on the increase; and even in a case of slight lesion, a favourable prognosis cannot be pronounced, until further observation shall prove that there is no tendency to increase. But if the history give no evidence of a sudden or recent affection of the heart, and if examination, repeated after the lapse of a week or so, discover no remarkable variation in the physical signs, it may be inferred, that the lesion is stationary, and may be considered less formidable in proportion as the natural sounds remain unaffected.

With the cases above described, as presenting through their physical signs a favourable prognosis, may be contrasted those of an opposite description, equally declaring themselves by their physical characters. We have seen that it is not the loudness nor harshness of the morbid murmurs, that proves the formidable nature of a cardiac disease; but rather the degree and mode in which natural sounds are superseded, or changed from that type in which they represent a healthy working organ. Thus when, instead of the natural first sound and impulse, there is only a soft blowing or musical murmur, with little or no impulse, or when a murmur of any character supersedes completely the natural second sound,—we have, at once, the proof of a serious and dangerous alteration of structure: and this is commonly, but not constantly, evinced by faintness, distressing palpitation, or irregular action, with other symptoms of failing function in the centre of the circulation. The most formidable cases of this description, are those in which the valves of an orifice have been broken down, either by some violent exertion, or by a sudden increase of endocarditis or degenerative softening. I have met with several examples of this kind. There had been the signs of a moderate lesion previously,—a murmur accompanying one or both natural sounds; when, after a violent strain, or excessive mental excitement, sometimes with the sensation of something suddenly giving way, the action of the heart becomes tumultuous and irregular, with more or less faintness or oppression; and the sounds of the heart are found to have become changed, the natural sounds being indistinct, the rhythm irregular, and the murmur altered in character, but not always increased in intensity. In other instances, a similar change has occurred less suddenly, but still within a few days, by the rapid destruction resulting from

acute endocarditis, or from fatty degeneration of the valves; in such cases, general symptoms of cachexia, and of serious disorder of the blood and excernent function are also present, to give warning of the impending danger; for destructive endocarditis, and degeneration of textures, do not occur in a healthy constitution. But the change in the sound of the heart is here all the more sure token of evil, and the sufferer seldom survives many days, or weeks at furthest.

When the lesion of the valves is slower in progress, and only gradually impairs the natural sounds, its fatal influence is often successfully counteracted, for a time, by the powers of nature. This they can do in slow cases, by developing increased strength and substance in the muscular walls of the heart. The more this is done by simple hypertrophy, without degeneration, or much dilatation, the better will it accomplish its end,—the augmentation of the damaged power of the heart to propel the blood. It is thus that we sometimes find the most formidable kinds and degrees of organic disease of the heart *gradually* developed, without sacrificing life, and, occasionally, without altogether precluding a limited amount of health. We do, now and then, meet with examples of most frightful amounts of change of structure—the normal sounds superseded by all kinds of unnatural blowing, sawing, or grating noises —the impulse exaggerated into a wide, tumultuous heaving stroke, which, with its almost equally violent diastole, so shakes the walls of the chest, as to give a shock to the whole frame; yet the patients complain of little or no palpitation or discomfort,, and have far less of suffering or fear, than most of those persons who are affected with merely functional disorder. By substituting increased force for completeness of mechanism, nature does manage to compensate for the defects for a while, and, under favourable circumstances, to maintain the circulation to a degree that is surprising, considering the amount of the lesion. But this compensatory power is very uncertain and unruly; it is very apt to exceed its due bounds, and further to damage the heart and adjoining vessels by its violence; or to falter and suddenly fail, when exhausted by an unusual effort: so that even these cases, the best of their class, hold life by a very uncertain tenure. The machine, working at a high pressure, to which it is not adapted, may suddenly stop from the expenditure of its power, or soon become worn out by the strain; and thus we are justified in applying a more or less unfavourable prognosis even to chronic cases, where the natural sounds of the heart are materially impaired.

In many cases, the compensatory efforts of nature are even less successful than in those last noticed; the hypertrophy of the walls is frustrated by dilatation, which implies the expenditure of the force on the cavities; or it is vitiated by fatty degeneration, which not only deprives the muscular fibres of their contractility, but renders them yielding and lacerable, and liable to functional failure or fatal rupture. Hence, a dilated flabby heart is the worst addition to valvular disease, and may render formidable even that which is not in itself dangerous. In this case, the systolic sound may be distinct, and even loud, and heard over a wide extent; but it is short, and with the brief knocking impulse, expressive of the deficiency of contractile power. The rhythm is commonly irregular, and the pulse very weak and unequal.

2. The second group of circumstances that affect the prognosis of organic diseases of the heart, are those relating to the Condition and General Circulation of the Blood.

The mechanism of the heart is adapted to certain degrees of spissitude and quantity of the blood, and the vital properties of the organ are sustained by its richness and purity. Any considerable deviations from the normal state of the blood, will disorder the action even of a healthy heart, much more that of one, the structure of which is imperfect. Thus, a thin watery state of blood will mechanically exaggerate the unnatural vibrations and regurgitations arising from valvular disease, and will increase the murmurs which these occasion; whilst the vital properties of the heart, being alternately irritated and exhausted by the irregular quantity and quality of its sustaining fluid, will be still further disordered, and raise the functional disturbance to its greatest possible height. Hence there are no cases which are more distressing, or seem more alarming, than those of valvular disease combined with *anæmia;* and many such instances have I seen, reduced to this condition by the injudicious employment of an antiphlogistic or lowering treatment. But so long as the natural sounds and impulse of the heart are distinct, and there is no evidence of a worse complication than anæmia, although the murmurs may be very loud, the palpitation very violent, the occasional faintness distressing, and all manner of anginal pains and oppression be present, and even although anasarca may have begun to appear, yet these cases are by no means hopeless. In many instances, they improve so much under a soothing and sustaining treatment (including sedatives, chalybeate tonics, and nutritious diet), that the patients sometimes think themselves cured: but the valvular lesion is still detected by its murmur, although its diminished intensity shows that it is of minor importance, now that a better state of blood has restored to the heart its proper sustenance. It may be inferred, therefore, that simple anæmia, although often greatly aggravating the symptoms, and exaggerating the signs, of heart-disease, is not a dangerous complication, if it be seasonably and properly treated.

The same observation will apply to *general plethora*, or simple excess of blood. This too, by exalting the vital properties of the heart, and by putting its mechanism to a strain, increases the intensity of the symptoms of organic disease; and, if uncontrolled, tends to spread its destructive effects. Under such circumstances, the prognosis is unfavourable only when the proper antiphlogistic and sedative treatment cannot be practised, or has been neglected too long: when these are judiciously and seasonably employed, the amelioration of the symptoms, and the diminution of the morbid sounds and impulse, are often very remarkable.

But the most common of all the complications of heart disease, and the most important to be considered in the prognosis and treatment, is that with *deteriorated quality* of blood. Cachexia and toxæmia, in all their varieties, uræmia, cholæmia, lithæmia (lithic acid in the blood), oxalæmia, pyæmia, and others, which it would be hard to name, might be exemplified from clinical experience as constituting prominent elements in the history of cases of organic disease of the heart, and almost stamping them with the proper indications for their treatment. The

subject is too wide to be discussed in full, it must suffice to take the more common examples of blood depraved by the retention of excrementitious matter in it.

Experienced practitioners have long been familiar with the fact, that in organic diseases of the heart, and, in fact, in most chronic maladies, it is of the first importance to attend to the state of the digestive organs, and to the secretions of the liver and kidneys. In truth, so prominent is this practical fact, and so manifestly does disorder of these several organs give occasion to the troublesome symptoms in the heart, that both practitioners and patients not uncommonly jump to the conclusion, that the true seat of the disorder is the stomach, or liver, or kidneys, and that the heart is only "sympathetically affected." The auscultator avoids this mistake; he is well assured, by the signs, that organic disease exists in the heart; but he will fall into an error of equal practical importance, if he neglect the consideration of those derangements of other viscera which react on the damaged heart, and render its imperfections more serious and distressing. The mode of their influence is, doubtless, in some cases, conveyed through the medium of nerves; and, therefore, may be called "sympathetic"; as where a bit of shell-fish or bitter almond in the stomach instantaneously causes palpitation or syncope, (this may happen without any organic disease, but it is more likely to happen with it). In other cases, the disturbing influence is merely mechanical; as where a stomach, inflated with gas, or distended with bulky crudities, presses on the heart; or where an enlarged liver has a similar effect. But most commonly, the medium which conveys the disturbing influence is the blood; loaded with morbid matters, resulting from bad digestion or imperfect excretion, it disorders the various organs through which it is distributed; and none more than the heart, whose injured structure makes it most susceptible of the disturbing influence: hence ensue attacks of palpitation or irregular action, and other symptoms of disturbance, which magnify a disease, before quiescent and scarcely observed, into a distressing and possibly dangerous malady.

Nor is the permanent affection of the heart unconcerned in producing the functional disorders which react thus severely upon it. These may be more or less owing to constitutional peculiarities, or accidental causes; but they are, in part, the result of the disturbed circulation connected with the cardial lesion. This always operates, in some degree, by inducing congestions or irregular flows of blood in the several parenchymatous organs. The lungs, the liver, the kidneys, and the mucous membranes, especially suffer from this disturbance; and, although insufficient to produce prominent symptoms, it sooner or later impairs or disorders their functions. Hence, we find the subject of organic disease of the heart occasionally, and in some instances almost periodically, suffering from biliary or stomach disorders; from asthmatic or catarrhal affections, or from some of those multiform rheumatic, gouty, and kindred ailments, that are connected with imperfect elimination by the kidneys. Any additional circumstances, tending further to lower the regular force of the circulation, may prove co-operating causes; such as exposure to cold, undue exertion or fatigue, irregularities of diet, and the like. And under their superadded influence, the exacerbation of the heart disorder will take place sooner, and with greater severity.

The primary pathological condition in the affected viscera thus induced by a heart disease, is generally congestion. Often we have the physical signs of congestion in the lungs, or liver, and, I may add, sometimes in the kidneys.[1] Their functions are then more or less impaired; and in no symptom have we better evidence of this, than in the state of the urine, which generally becomes scanty, high coloured, and occasionally turbid, and in severe cases, albuminous; less commonly, it is pale and watery. As this proceeds, the action of the heart is more deranged, until more or less of a paroxysm of inordinate or irregular action is developed, with the usual distress and increased disturbance of all the functions. Here we trace the influence of the defective excretion in impairing the quality of the blood, and in developing and aggravating the imperfections of the organ, which propels it. In the same cases conjointly, in others separately, the liver may likewise suffer, and in its increasing bulk and tenderness, it gives evidence of congestive enlargement; whilst, in many instances, a tinge of the conjunctiva, and even of the skin, porphuria, and various other signs of bilious derangement, affords proof of the presence of bile in the blood. Here the heart soon feels the deterioration of its proper stimulus; and faintness or irregular action, sometimes with a peculiar kind of breathlessness, is the consequence.

These secondary disorders, arising from imperfections in the heart, and reacting on and aggravating them, are, if opportunely and properly treated, quite tractable in connection with the more moderate degrees of cardiac lesion; but, if neglected, they tend to become inveterate and unyielding, and to involve the system in a state of constitutional disease and cachexia, which, in various ways, may hurry the malady to a fatal termination. In my *Principles of Medicine*, I have pointed out the most important steps in this process of extension and aggravation of disorder; and did space allow, I could cite numerous histories of cases, in exemplification of various modes of this progress: but to avoid the tediousness of detail, I will enumerate the several changes of structure and function, which commonly precede the fatal termination of organic diseases of the heart. Whilst the pathologist will not fail to perceive the mutual relations of these changes, the practitioner will recognise in their symptoms, phenomena long empirically known as "bad signs", marks of a "break up", indications of failing vitality.

The following Table contains the elements of the complications most commonly occurring in the progress of organic disease of the heart; and it is sufficiently obvious, that in proportion as these secondary lesions become permanent, they react on the original disease in the manner described, and both by aggravating it, and by injuring other functions, and the general health, they render the prognosis more unfavourable, and even to lesions of moderate extent may give a fatal tendency.

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[1] The physical sign of congestion of the kidney is a temporary enlargement, ascertained by palpation through the walls of the abdomen in the supine posture. In persons that are not fat, I have generally been able to reach the body of the kidney by gradual rotatory pressure, which, by displacing the intestines, brings the flat of the fingers in apposition to the posterior walls of the abdomen. This mode of determining the size of the kidney is much more feasible than that by percussion.

SECONDARY EFFECTS OF ORGANIC DISEASES OF THE HEART.

ON THE LIVER.	CHIEF SIGNS OR SYMPTOMS.	COMMON RESULTS.
Congestion	Soft and varying enlargement	Increased secretion or deposits.
Deranged and interrupted secretion	Bilious attacks—jaundice, etc.	Cholæmia, malnutrition, dyspepsia, etc.
Interstitial deposits	Enlargement.	
——— soft—plastic	——— soft, uniform	Functional disorders, general weakness, etc.
——— fatty	——— ditto	Cachexia, dyspnœa, general dropsy.
——— hard—granular	——— hard, irregular	Jaundice, cachexia, malnutrition, purpura.
——— contractile	Size progressively decreasing, with rounded induration	Intestinal hæmorrhages, ascites, cachexia.
ON THE KIDNEYS.		
Determination of blood—congestion	Secretion first increasing, then diminished and albuminous or bloody—Lumbar pains and tenderness	Disordered secretion, temporary albuminuria, uræmia, etc.
Increase and casting of epithelial cells of tubuli	Soft enlargement—Urine diminished, and containing casts of cells and albumen	The same in a more confirmed degree.
Gradual filling of tubuli with common granular cells, sometimes degenerating into fat	Secretion less urinous, more albuminous	Permanent albuminuria, uræmia, and its consequences, cachexia, spanæmia, dropsy, etc.
Exudation on vessels, causing partial contraction and atrophy	Secretion less albuminous, more watery	
ON THE LUNGS.		
Congestion and determination of blood	Dyspnœa, cough, catarrhal expectoration. Obstructed breath-sounds, moist crepitus in back, wheezing, etc.	Pulmonary catarrh, or emphysema.
Interstitial deposits and obstructions of vessels	Confirmed dyspnœa. Signs as above, with partial dulness and tubular sounds	Hydrothorax and general dropsy, aggravation of heart disease.
Pulmonary apoplexy and consolidation	Increasing dyspnœa and and cough. Expectoration viscid, and sometimes bloody	
ON THE ARTERIES.		
Irregular distension—partial inflammation	Strong pulsation; sometimes murmurs. Pain or soreness. Jarring pulse	Excitement and derangement of function of part.
Deposits on the coats. Fatty and calcareous degeneration	Hard pulse—unequal. Ditto	Irregular supply of blood, and liability to rupture, aneurism, gangrene, atrophy, or mal-nutrition.

(To be continued.)

7, Holles Street.
March 6, 1850.

ON THE THERAPEUTICAL USES OF TEREBINTHINATE MEDICINES.

By THOMAS SMITH, M.D., etc., Cheltenham.

It has often occurred to me, and I have no doubt even to the most cursory observers, how few of the medicines, out of our long catalogue of remedies, are really found to answer the expectation in the hour of need. The ills to which flesh is heir, are sufficiently numerous and oftentimes puzzling enough; but the means of combating them, are neither so ample nor so decisive, as the catalogue of our *materia medica* would induce us to believe. It may fairly be questioned, if the present generation has discovered (with the exception of chloroform) a single specific, or invented any new remedy, however much it may have extended the use and improved the knowledge of the properties of those already known. Chemical science, it is true, has succeeded in isolating the active principles of some of our more potent remedies; but in accomplishing this, it has not, in every instance, rendered the concentrated preparation equally efficacious with the old. Quinine cannot always be considered as a substitute for bark; neither can morphine at all times be prescribed for the same cases, and with the same beneficial results, as opium. Notwithstanding these drawbacks, the chemist has been of essential service to the medical practitioner.

It is an excellent habit to review, at stated periods, our past practice; to compare the various epidemics and disorders which have occurred in our times, with those of past ages—to investigate their causes, the means which have proved most efficient in their treatment, and the reasons of the success or failure of our remedial efforts. On looking over my notes, I have been both pleased and gratified to find one class of medicaments which have rarely failed to answer the object for which they were prescribed. The Terebinthinate drugs have, from time immemorial, enjoyed a high reputation as valuable auxiliaries in allaying, arresting, or removing disease. In private as well as in public practice, I have prescribed them extensively, internally and externally, in the forms of potion, liniment and lavement, with the happiest results. Hence I naturally feel a strong partiality for their employment. I have had sufficient opportunity for testing their utility, in upwards of seven hundred cases; and I do not recollect an instance of any unfavourable symptom supervening on their exhibition, except in the following case: An aged female, who had repeatedly taken large doses of turpentine for the expulsion of tapeworm without effect, applied to me for advice. I prescribed the following; ℞ Olei terebinthinæ ʒi; olei ricini ʒss;—fiat haustus. To be taken directly, and repeated in three hours. Shortly after the second dose, she complained of vertigo, and vomited profusely; violent hypercatharsis followed, with intense pain in the region of the kidneys; and the worm was voided two hours after the second dose. In forty-eight hours, she had completely recovered from these unpleasant symptoms; nor had she ever, to my knowledge, occasion to regret the severity of the means adopted for her relief.

The silence of writers on forensic medicine on the injurious conse-

quences, resulting from an overdose of the oil of turpentine, may be considered as a strong corroborative testimony in its favour. Christison has never heard of a fatal case. Mr. John Headman, however, mentions the case of a woman sixty-one years of age, whose death was occasioned by this drug in twenty-five days—dose not stated. Dr. Duprés is supposed to have fallen a sacrifice to inflammation of the urinary organs, occasioned by too large a dose of this drug, continued for too long a period.

History. The Terebinthinate drugs have, for centuries, had a high and distinguished place in the *materia medica*. They belong to a family, of which it has been justly observed by a writer in the *Dictionnaire de Matière Médicale*, "C'est une des plus importantes du règne végétal sous le rapport de ses produits, tous doués de beaucoup d'activité."

In the works of Hippocrates, Celsus, Dioscorides, Aretæus, Avicenna, Rhases, Galen, Serapion, Boerhaave, Van Swieten, etc., we find frequent allusions to the Turpentines. The name, derived from the Greek τερέω, (I bore or perforate), in reference to the way in which it was obtained from the tree, evidently implies a knowledge of the liquid species. In that state, I believe it to have been generally used as an internal remedy. Aretæus distinctly alludes to the liquid form, and recommends it as useful in enemata; he prescribed the Turpentines largely in various maladies, and like the Roman Physician, Celsus, considered them especially valuable in pectoral disorders. Pliny, like Dioscorides, divides the Turpentines into two species, "Gummæ species duæ, sicca et liquida." In the polypharmacy of the middle ages, the Terebinthinates and balsams constituted some of the most active ingredients of which their multitudinous formulæ consisted.

Towards the close of the seventeenth century, the Turpentines, like many other medicines of intrinsic value, lost their ground in public estimation; nor was it until the dawn of the nineteenth century, that physicians deemed them of sufficient importance to be employed as internal remedies in the treatment of other diseases than those of the urinary organs. Yonge, and subsequently the celebrated Hunter, were amongst the first to revive their use as styptics. The Dublin physicians were not long in making trial of them in some of the most severe affections to which the human frame is obnoxious. In America, they have been proved to be of eminent service in many febrile diseases. In France, they soon attained a high position as remedies in neuralgic and rheumatic disorders. Amongst the Hungarians, they are considered a sovereign remedy against all kinds of coughs and bronchial affections. Some of the most eminent medical practitioners of Great Britain have, within the last thirty years, strongly insisted upon their use in almost every malady for which they had previously been regarded by the ancients as most efficacious. Without disparaging the labours of others, the meed of praise is justly due to Dr. Copland for the high reputation which the Terebinthinate preparations have now attained.

Physical and Chemical Properties, and Mode of Preparation. In the market, there are several kinds of drugs known by the name of Turpentine; and, though differing in many distinctive peculiarities from each other, they nevertheless, in essential properties, are dependent

upon the same principles—a volatile oil and a resinous residuum. The true Turpentines are distinguished from the balsams, with which they are not infrequently confounded, by the former containing succinic acid, the latter benzoic. In distilling these Turpentines over caustic lime, a very pure spirit is obtained, of low specific gravity, to which the name of camphine has been applied, and which is now pretty extensively used for the purpose of giving light in private dwellings, in lieu of oil. The greater portion of the common Turpentine which is met with in this country, is imported from America, and is chiefly procured from the pinus palustris, in the following manner. A portion of the tree is scooped out, a short distance from the ground, and the bark is removed for several inches above. During the summer months, the Turpentine flows into the hollows thus formed, and is then collected for exportation. It has a warm acrid bitterish taste, a peculiar aromatic odour, is of a soft consistency, and of a yellowish white appearance. Oil of Turpentine is obtained from this substance, by distilling it with water in an ordinary common still. Oil or spirit of Turpentine, as it is frequently called, when prepared according to the directions of the *London Pharmacopœia*,—that is, by adding four parts of water to one of oil of Turpentine, and carefully distilling, ought to have a specific gravity 0·86 at 60 Fah., to boil at 314, to have a slightly acid reaction, and to be completely soluble in six parts of sulphuric ether. This oil is quickly dissolved by hot alcohol, but readily separated in drops as the spirit cools. Oil of turpentine is considered by Blanchett and Sell, to consist of two isomeric oils, dadyl and peucyl; but as the boiling point of oil of Turpentine is less than the boiling point of those two oils, Pereira treats them as educts, not products. An artificial camphor may also be obtained from highly rectified oil of Turpentine, by passing a stream of oxygen gas through it. The analogy between camphor and oil of Turpentine is very strong,—the leading characters of the former being those of a concrete volatile oil.

Pure oil of Turpentine for medical purposes ought always to be distilled over caustic potash, lime, or soda. A specimen of the oil thus prepared by Mr. Bullock, operative chemist, Conduit Street, which is now lying before me, is perfectly pure, neutral, has rather a sweetish taste, and a peculiar aromatic odour; and when its flavour is disguised by a small quantity of the essential oil of bitter almonds, it is not particularly disagreeable to the palate. This oil of Turpentine, as prepared by Mr. Bullock, is very different from the camphine of commerce, which, though neutral and of very low specific gravity 0·60 (Price's), has a disagreeable saponaceous taste. As an external counter-irritant, it is much more rapid in its action than oil of Turpentine, and I always prefer it where it can be obtained, where it is important to produce severe or immediate counter-irritation. Perhaps one of the objections against the daily employment of the oil of Turpentine in cases specially adapted for its use, may have arisen from its nauseous flavour, and its tendency to impart its odour to the eructations which it not unfrequently occasions. To obviate these inconveniences, Dr. Nimmo, of Glasgow, proposed a method of freeing oil of Turpentine from all unpleasant taste and smell, by a very simple process, without sacrificing any of its essential properties. There can be no doubt that oil of Turpentine, prepared according

to this plan, may be kept for several months. I lately possessed a specimen of the oil, devoid of all unpleasant odour, of which it had been deprived more than six months previously. Oil of this description, when exposed to light and air, very soon re-acquires the peculiar Terebinthinaceous character; it ought, therefore, to be preserved in small bottles, well-corked, each containing not more than half an ounce each, and only used for extemporaneous prescription. When flavoured with any essential oil, such as lemon, cinnamon, verbena, or prussic acid, it may be taken, without creating the slightest inconvenience, or disgusting the most fastidious palate. To render this medicine free from smell or taste, take eight parts of purified oil of Turpentine and one part of the strongest alcohol; agitate briskly, and then let it stand some time; pour off the alcohol, then add a fresh quantity to the Turpentine; proceed as before, and repeat the process until it has lost its peculiar taste and smell. Turpentine, when thus prepared, leaves no residuum on evaporation.

According to Pereira, the ultimate composition of the purified oil of Turpentine, is

20 Atoms of Carbon—6×20	...	120
16 ,, Hydrogen		16
		136

Nitric acid resinifies oil of Turpentine; and the resin, after long boiling, is converted into crystals of Turpentine acid.

Chian or Cyprus Turpentine is very often prescribed by some practitioners where the Terebinthinates are indicated, because it does not possess the same unpleasant taste, and easily can be given in the form of pills. Though I have prescribed it frequently, I have never found it so useful as the essential oil, in some states of the bladder and urinary organs. This kind of Turpentine, the Canadian balsam or Venice Turpentine, may have advantages; but, as a general rule, when the medicine is deemed requisite, the purified oil ought to be given.

Physiological Effects. Turpentine, when taken internally, exerts a peculiar action on the mucous surfaces, and the tissues superimposed upon them: it increases the peristaltic motion of the bowels, inducing purgation, and, in very large doses, hypercatharsis; it promotes the flow of urine, impregnating it with a violet odour; and if its action be specially directed to the kidneys, may produce strangury and bloody micturition. It determines to the skin, producing copious and free diaphoresis, sometimes attended with an itchy eruption. It also taints the pulmonary exhalation with its characteristic smell. A large dose has been taken internally, and failed to produce action of the bowels or kidneys; the vapour of the Turpentine has then been discharged through the skin and pulmonary organs; this was the case with the experiment that Dr. Copland instituted upon himself. I once gave half an ounce to a boy of sixteen years of age, which occasioned no other unpleasant symptoms, than an increase of the respiratory movements, and acceleration of the circulation, with a tendency to somnolency, followed by a profuse discharge from the urinary organs. The breath and perspiration were tainted with a Turpentine odour for upwards of a week; the bowels remained inactive until he had taken

eight ounces of the compound infusion of senna, with ten grains of calomel: the evacuations when passed were extremely fœtid, black, and slimy, but giving off no smell of Turpentine. Hertwig injected two drachms into the veins of a horse; trembling, reeling, with inclination to pass stools, and frequent micturition ensued. Fever and bronchitis were set up, and the animal died in nine days. Schubert found that two drachms given to a dog caused tetanus and death in three minutes. I once saw half a drachm administered to a young cat: the poor creature mewed piteously, was extremely restless for several hours, and had constant micturition, unaccompanied with diarrhœa; after some hours, it fell into a profound lethargy, from which it awoke perfectly well; its eyes remained injected for several days.

Turpentine seems peculiarly destructive to vegetable existence. Small insects are speedily destroyed by it; indeed, no other drug appears to exert so fatal an influence over the majority of parasites which infest animal and vegetable life.

When taken internally, it has been detected in the various secretions of the human body. Todd and Johnson have met with it in the kidneys of a patient who died from hæmorrhage; it has also been detected in the chyle of a dog and horse, to which it had previously been administered, by Tiedemann and Gmelin.

Therapeutical Effects. The diseases for which Turpentine has been prescribed, and which have been materially relieved by it, are extremely numerous; there is scarcely one, whether acute or chronic, sthenic or asthenic, which has not been successfully treated, if the testimony of some of the first practitioners of the age is to be credited, by the medicine under consideration. It would be a useless task to cite all the cases and all the maladies, in which the admirers of this drug have found it advantageous. Suffice it to say, that in every instance, where prejudice has not interfered, and where ignorance has not prescribed, this drug has obtained favour and proved itself a faithful friend.

In passing in review the numerous disorders for which it has been ordered, as I wish this paper to have a practical bearing, I shall dwell as briefly as possible upon all those which have not come under my own immediate observation. Those who desire a more extensive acquaintance with the nature, properties, and uses of this drug than is to be met with in these sketches, will do well to consult the pages of our monthly and weekly periodicals, which, for the last thirty years, have occupied a prominent place in the medical literature of Europe and America. The writings of Dr. Copland, Paris, Pereira, Eberle, Thompson, Brande, etc., the *Dictionnaire de la Matière Médicale*, and the records of ancient medicine, contain an amount of valuable information regarding the properties of Turpentine. In common with other medicines, its therapeutic effects are liable to be modified by numerous circumstances: viz., the seasons of the year, the idiosyncrasies, age, or sex, of the individual, the special or general cause of the malady, or its occurrence before, or subsequent to, any general or universal epidemic.[1] From a neglect of these pre-

[1] It is a remarkable fact, that after any severe visitation, such as epidemic cholera, the human frame undergoes an extraordinary change. Many will, I have no doubt, recollect how general was the custom to abstract large quantities of blood in fevers and inflammatory disorders previous to 1831. Venesection was the prac-

cautions, many really valuable remedies have, though somewhat undeservedly, fallen into disrepute.

As a rapid and safe *counter-irritant*, there is no drug more efficacious than warm oil of Turpentine or camphine. I have never known an instance of its acting injuriously when thus applied; it never produces strangury or any uneasiness of the urinary organs, like preparations of cantharides; and here I fully coincide with the opinion expressed by the late Dr. Ryan, that when counter-irritation is deemed imperatively necessary in severe acute diseases, as cerebritis, hydrocephalus, pneumonia, enteritis, peritonitis, or hepatitis, it is an extremely inert and unjustifiable practice, to wait for twenty-four hours for the irritating effects of a blister, when the same may be produced in as many minutes by epithems of warm oil of Turpentine.

Veterinary surgeons have condemned the external use of Turpentine as an epispastic; it has been asserted that, when applied to the horse, it prevents the hair from growing. I do not think this correct. Some years ago, I had a grey mare, which was seriously injured about the head and fore legs by an accident. Contrary to the recommendation of my veterinary surgeon, who insisted upon the application of tincture of myrrh, and greasy unguents containing gunpowder, I determined for once to try the experiment, if an injury to a horse might not be remedied by the same means as one in a human subject. I had the wounds carefully fomented and poulticed, and afterwards applied an ointment, consisting of resin ointment, and oil of Turpentine. The animal recovered without any material disfigurement. Last year I had a black horse consigned to me by a friend in Yorkshire, which met with a severe accident in its transit on the railway. The horse was treated in the same way as the one above, and in a few months was perfectly restored, without any other blemish.

The liniment, by means of which the celebrated quack St. John Long was supposed to have performed miraculous cures, was a mixture of the oil of Turpentine, pyroligneous acid, and yolk of egg.[1]

As a *vermifuge*, turpentine has been given in the form of Chabert's oil. This is made by mixing one part of the empyreumatic oil of hartshorn, with three of oil of Turpentine, allowing them to stand for

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tice of the day. On the advent of the epidemic influenza of 1833, general bleeding, even in maladies of a high phlogistic character, could not be adopted with safety; numerous lives were doubtless sacrificed, ere this change in the human constitution, —its inaptitude to bear excessive depletory measures, was fully appreciated and understood. We are now approaching an epoch (if we have not already entered it), in which the vital phenomena of the animal organism will manifest themselves differently under the influence of remedial agents. If my observation does not deceive me, I am inclined to believe that this great climacteric change, on the completion of the cycle of the late formidable and universal epidemic, will mainly develop itself, by inducing a lax condition of the intestinal tube. I have noticed, that patients who have been accustomed to take large quantities of aperient medicine, now rarely require it; and when it is needed, a smaller portion is found sufficient. This is not confined to the aged, for even in children I have witnessed a similar alteration in their former habits.

[1] This liniment is an excellent counter-irritant. We used it as an external stimulant in some cases of cholera during the past epidemic, as recommended by Dr. James Bird; and we frequently employ it as a counter-irritant in phthisis, and other chest diseases. EDITOR.

three days, and afterwards distilling off three-fourths of the mixture by the aid of a sand bath. It very soon becomes blackened, by exposure to the air, and therefore ought to be kept well corked, and excluded from the light. It is extremely nauseous; and, on that account, is not likely to come into general use.

As a *purgative*, Turpentine ought never to be administered alone, in large doses, during the winter, or in cold damp weather: because, under these circumstances, it tends, in common with other hydrocarbons, to supply fuel to the body for the evolution of animal heat, rather than exert any therapeutic property. Indeed, I very much question the propriety of giving it alone, as a purgative, under any circumstances whatever. There are some writers who do not hesitate to recommend it in doses which I consider unjustifiable. In winter, cerebral congestion may supervene; in summer, intractable diarrhœa, from over-excitement of the mucous membrane of the bowels. The case of Dr. Copland furnishes an instructive example on this head: ten drachms of the oil of Turpentine were swallowed, and failed to induce action of the bowels or kidneys; the consequence was, high cerebral excitement, followed by a train of unpleasant symptoms, which it would be dangerous, in some constitutions, to excite.

Turpentine is, however, often a valuable addition to other purgatives, as it possesses the faculty of increasing their activity in a remarkable degree. I have known a lady, who, for forty years, was unable to procure an evacuation without the most drastic purgatives. She succeeded in obtaining daily action, by the simple combination of a teaspoonful of castor oil with ten drops of oil of Turpentine. I have had another case under my care, where the same combination enabled me to relieve the augmented suffering occasioned by obstruction of the bowels from chronic meningo-myelitis of several years duration.

Whatever may be the object for which Turpentine is exhibited as a purgative, whether for the expulsion of parasites infesting the human body, or as a revulsive in cerebral affections, the dose should never exceed half an ounce at one time; and to ensure its purgative action, it ought to be united with some other aperient, as castor oil, compound infusion of senna, sulphate of magnesia, or the decoction of the bark of the root of the pomegranate. If prescribed in the above dose, in conjunction with any other active purgative, we run little risk of inducing strangury, or any other unpleasant symptom. It may be repeated at intervals of four hours, with perfect safety. Though some authors have stated that the dose of the oil of Turpentine may be from half an ounce to two, or even four ounces, he must be a very bold practitioner, who would take this suggestion for his guide. If the first-named quantity will not suffice for the destruction and consequent expulsion of a tænia, a larger amount given at one time, will equally fail; for it is not by the aperient properties alone of the medicine, (as I shall hereafter shew) that the death of the worm is effected.[1] As a *diuretic*, the dose may

[1] There may be special cases, but they will be extremely few, in which an extraordinary dose of any particular medicine may be peremptorily called for by the condition of the patient. For instance, I once gave to a man labouring under delirium tremens, seven grains of the acetate of morphia, in divided doses, within two hours, ere I could allay the inordinate and convulsive movements, and restrain

be from five to thirty drops, taken in any aromatic water, or mineral saline. I have rarely found patients object to its use, when exhibited with the salines of either Cheltenham or Harrowgate; and the numerous cases in which I have prescribed it, in conjunction with the waters from these mineral springs, have convinced me, that this union is especially indicated where we are anxious to direct its influence to the renal organs.

As an *astringent*, in doses varying from 20 minims to a drachm, according to the urgency of the symptoms, and repeated every three or four hours, Turpentine is one of the most efficacious remedies which we possess. The best vehicle for its administration, in the first place, is water, flavoured with syrup of orange, or any other agreeable aromatic. It may afterwards be advantageously combined with any other therapeutic agents, which the special nature of the case may require: thus, in epistaxis depending upon rupture of one or more small vessels, and where much arterial blood has been lost, muriated tincture of iron will form a valuable adjunct. In hæmatemesis and other sanguineous discharges from the bowels, it may be united with compound infusion of roses, sulphate of magnesia, iced-water, and solutions of tannic or gallic acid. In some forms of hæmoptysis, it may usefully be added to infusions of matico; in hæmaturia, to the decoctions of uva ursi, chimaphila, pyrola, etc.; or to tincture of sesquichloride of iron, etc. In purpura hæmorrhagica, the decoctions or infusions of the barks form with it an excellent adjuvant. In hæmoptysis, it has speedily and effectually arrested the hæmorrhage; and is a much safer remedy than lead.

In my experience, there is no single medicine in the materia medica, that can be compared with it as a *styptic*, either as to certainty of action, or to the safety of its effects. It is compatible alike with acids and alkalies.

The *external use* of Turpentine has been very general for a great number of years, alone or combined with other rubefacients, such as mustard, strong liquor ammoniæ, pyroligneous acid, cajeput oil, wine of hellebore, colchicum or opium, tartar emetic, croton oil, etc. It has very frequently been found of permanent utility, when applied as a warm epithem to the skin in pulmonary affections. Its action is twofold; first, it induces rapid though often transient counter-irritation; secondly, its vapour is inhaled into the lungs, and by its constringent operation on the extreme capillaries of the pulmonary texture, is not infrequently productive of great relief in some affections of these organs. For the purpose of inhalation, I am in the habit of dispersing its vapour through the room by evaporating water containing a portion of it, by the aid of a spirit lamp. When thus diffused through the atmosphere, it may be breathed for two or three hours in the course of the day, by the most delicate-chested person, and often with the most marked and striking amelioration of their pectoral symptoms.

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the shrieks of the wretched sufferer. Again, at another time, I exhibited to a female, in the presence of Dr. Logan, twelve ounces of sulphuric ether, when the principles of etherization were first introduced, and kept this woman in a state of insensibility for upwards of six hours. Although both these cases did well, they are exceptional ones, and ought never to be imitated, except in emergencies of the most urgent description.

Long after the patient has left the room, he is conscious of the taste and smell of the turpentine. I have often detected its presence some hours after he had been submitted to its penetrating influence. I have also employed camphine in the form of a bath, mixed with common soda; or two pounds of the latter with from quarter of a pint to half a pint of camphine, and half an ounce of oil of rosemary, will form an excellent bath. In delicate skinned patients, females and children, ʒii of camphine will be sufficient. I may remark, *in limine*, that the alkaline camphine bath possesses virtues peculiarly its own. In the coldest day in winter, as I have verified in more than one instance, it may be employed with the most perfect safety. Whilst the individual is in the bath, he experiences, to my knowledge, no disagreeable annoyance from the disengaged vapour; on the contrary, if we except the taste of the Turpentine, which for some time remains in the mouth, a sense of calmness and tranquillity very often follows a previously disturbed, irregular, or excited condition of the respiratory or sanguiferous systems. After five minutes recumbency in the bath, the pulse is found to become fuller, softer, and slower; I have seen it fall from 100 to 80. The respiration also becomes freer, deeper, and less laboured. On coming out of the bath, the whole skin has a peculiar velvety, soft, and agreeable feeling; the breath is strongly tainted with the terebinthinaceous odour. If it have not been too hot, a pleasurable tingling warmth is experienced throughout the whole cutaneous surface; and this, with the preceding symptoms, may continue twenty-four hours. One great advantage of this bath will be found in the circumstance, that it may be employed at a heat from 10 to 15 degrees below the temperature of the ordinary warm one, without inducing that sensation of chill to which some delicate constitutions are so peculiarly obnoxious; ten or fifteen minutes is the length of time a patient ought to remain in a bath of this description. In the first instance, it is well for patients to commence with a smaller quantity of the Turpentine and soda, say a pound of the latter with two or three ounces of the former, and gradually increase its strength on each repetition of the bath, to the first mentioned proportions. This bath may be taken every second or third day, according to the urgency of the symptoms and the nature of the affection for which it is prescribed.

I come now to a more particular enumeration of the maladies for which Turpentine and its preparations have been chiefly recommended. They are—sanguineous exhalations from the mucous surfaces, epistaxis, hæmoptysis, melæna, purpura hæmorrhagica;[1] consumption, chronic bronchitis, mucous or purulent discharges from the urethra;[2] grubs infesting the urethra, tænia, ascarides;[3] typhoid, yellow and puerperal fevers, plague;[4] abdominal obstructions, strangulated hernia, tympanitis, colica

[1] Adair, Brooke, Cheyne, Clutterbuck, Copland, Elliotson, Hunter, Mageé, Nichol (W.), Thompson, Vincent, Younge.

[2] Aretæus, Celsus, Dioscorides, Van Swieten.

[3] Birkbeck, Cross, Fenwick, Fothergill, Gomés, Hancock, Hartle, Kennedy, Knox, Laird, Lettsom, Maldon, Mello, Ozanam, Pereira, Saner, Winstone.

[4] Atkinson, Blundell, Brenan, Chapman, Copland, Cullen, Douglas, Farre, Faulkner (Sir A. Brooke), Fernandez, Gooch, Hamilton, Holst, Johnson, Kinneir, Moran, Payne, Physick, Pritchard, Wood.

pictonum, biliary concretions;[1] traumatic tetanus, trismus;[2] apoplexy, hydrocephalus, acute and chronic, epilepsy;[3] neuralgia, sciatica, rheumatism;[4] diabetes, dropsy;[5] inflammations of the eye;[6] cholera, renal hydatids, suppression of urine;[7] burns, wounds, poisoning by prussic acid or opium, salivation.[8]

Illustrative Cases. My first observations will illustrate its efficacy in the Hæmorrhagic Diathesis. I do not coincide with the notion, that hæmorrhage, whether vicarious, or occasioned by a congestive condition of an overburthened viscus, is a salutary effort of nature, and that, therefore, caution is necessary in interfering with it. It has been my invariable aim to arrest a hæmorrhagic effusion as quickly as possible. We can in some measure calculate the worst consequences likely to arise from a general or local abstraction of blood; but we can never foretell what irreparable lesions nature may occasion by prolonged sanguineous exudation through an unnatural channel.

Hæmatemesis. This is a very common disorder, and often, when improperly managed, lays the foundation for a train of symptoms which not infrequently terminate in dropsical effusion. It has happened to me to have several such cases, principally among females, in which the usual treatment, by acetate of lead, mineral and gallic acids, etc, had been adopted. Since, however, I have given the Terebinthinates in this class of diseases, I have not had a single dropsical case supervening on the original malady.

Case I. Captain ——, 82nd foot, aged 64, was engaged in active service in India, and in the Peninsula, prior to the year 1812. He was of stout athletic constitution, six feet two inches high, and rarely if ever was known to complain, previous to an attck of fever, which he experienced at the close of the Peninsular war, and which led to his retirement from active military service. From that period to 1843, he was a martyr to anomalous and painful sensations in the præcordial region. The more prominent symptoms were—a short hacking cough, without expectoration; an occasional momentary pain darting from under the left nipple to the right shoulder, easily brought on by mental excitement; his temper, which had formerly been under control, now became irritable, fretful, and peevish. The functions of the bowels were performed with regularity; the appetite in general was good; his sleep short and disturbed. For a very long period, these symptoms continued without any material alteration, though he had tried a variety of remedies for upwards of twenty years, and had had issues of one kind or another in different parts of the body. About the year 1831,

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[1] Boerhaave, Durand, Gibbon, Green, Guyton de Morveau, Hall (Marshall), Hamilton (C. B.), Kinglake, MacWilliams, Odier, Paris, Ramsbotham, Sewell, Sprengel.

[2] Gibbon, Hutchinson, Mott, Phillips.

[3] Latham, Lithgow, Money, Moran, Percival, Pritchard, Young.

[4] Bonnet, Cheyne, Ducros, Dufour, England, Hild, Home, La Roque, Lenton, Martinet, Maton, Pitcairn, Recamier, Thilenius.

[5] Darwin, Werlhoff,

[6] Burke, Carmichael, Foote, Guthrie, Hynam, Langier, Middlemore, Wright.

[7] Bayle, Copland, Neale, Pereira.

[8] Emmert, Geddings, Hanold, Heister, Jenkins, Kentish, King, Orfila, Paré (Ambroise), Percy, Pott.

he parted with a small quantity of blood, which greatly alarmed him, and for some weeks this continued with scarcely a day's intermission. On recovering from this attack, he found great difficulty in remaining quiet in a sitting posture. When in the house, he was constantly rocking himself in his chair. A see-saw motion seemed to be essential to respiration: if perfectly still, he complained of a feeling of suffocation. In 1837, he experienced a second attack of Hæmatemesis, of a more serious character. The hæmorrhage continued for several days, unrestrained by the remedies used. He was very much altered; convalescence was extremely slow, and he never regained his former status. It was a few months after this attack that I first saw him. His appearance was exsanguineous, lips livid, pulse 100, irregular and intermitting, respiration short and laboured. He was in constant motion, rocking himself to and fro in his chair, which he always had placed in a diagonal line between the fire-place and the open door. Even at meals, he continued the same to-and-fro motion, eating whilst rocking himself. His tongue was large, thick, indented, and compressed, palish, and mostly covered with a yellowish fur; the abdomen was exceedingly painful to the touch, more especially in the right hypogastric region. The bowels were easily acted upon by aperients. The evacuations were bilious, often dark and fœtid. The urine was high-coloured and scanty, frequently throwing down a lateritious sediment, sometimes attended with a pinkish deposit; sp. gr. 1·030. He had also swelling of the ankles; constant teasing cough, with mucous expectoration; occasional severe pain in the forehead; pain in the region of the heart. The physical signs were—chest sonorous; occasional mucous râle; extended dulness over the precordial region; *bruit de rape* most distinct on the right side, in a line upwards towards the sternum. Intensely severe paroxysms of dyspnœa now occurred at frequent intervals; these were relieved by local depletion and antispasmodics. There was œdema of the lower extremities; the urine was passed in small quantities. Towards the close of 1840, hæmorrhage from the stomach and bowels again recurred, with great increase of pain in the abdomen. In his debilitated condition, general bleeding was inadmissible; and even local depletion was not altogether unattended with risk. I prescribed ten leeches to relieve the abdominal inflammation, and ordered warm epithems of Turpentine to be subsequently applied. Turpentine enemata were also ordered to be administered twice daily, and the following mixture to be taken, in doses of two table-spoonfuls, every four hours: ℞ Infusi rosæ comp. ʒviiss; magnesiæ sulphatis ʒviii; mannæ optimæ ʒiv; olei Terebinthinæ purificati ʒiss. M. On the following morning, I found him much better; the bowels had been freely relieved, the pain had considerably abated, and there had been no return of the hæmorrhage. He expressed himself as feeling decidedly better, and had never experienced so much relief in so short a time from any medicine as from the Turpentine. He rallied from this attack rapidly; the swelling of the ankles decreased; the urine became light-coloured, of lower specific gravity, and more abundant in quantity; his complexion improved, and his spirits became more cheerful. He continued the Turpentine, in conjunction with the saline waters of Harrogate, for a considerable time, with marked amelioration of his more painful symptoms.

About three years after this, domestic troubles increased the disturbance of the heart. Peritonitis supervened, from which he sank in a few days.

The autopsy revealed a very large amount of disease. The heart was of an unusually large size; the walls of the right ventricle were much dilated and thinned; the mitral and tricuspid valves were extensively ossified. A small quantity of serosity was found in the pericardium. The lungs were healthy in texture, but slightly congested; the peritoneal covering of the bowels was extensively inflamed. The transverse arch of the colon was firmly attached to the lower surface of the stomach, and bands of adhesion (evidently of long standing) passed from it to several portions of the small intestines. In the stomach, were two small ulcerations near its pyloric orifice, and it exhibited small puckered places in several parts, evidently the result of some previous ulceration; there were also distinct patches of inflammation. The liver was a completely soft pultaceous mass, easily breaking down under the finger; it was of a bright yellow colour, and contained small pieces of a white friable calcareous matter. The kidneys appeared larger than natural, and much congested.

Case II. Mr. M., aged 36, of florid complexion, stout conformation, five feet ten inches in height, was seized on the 30th April, 1843, whilst superintending his men, who were removing some machinery in a mill, with a sensation of sickness and oppression in the præcordial region. Feeling himself very ill, he immediately desired to be taken home; but before this could be accomplished, he vomited a large quantity of blood. On my arrival at his house, whither he had been removed, I found him still complaining of considerable nausea. I immediately gave him ten grains of the acetate of lead, to be repeated every three hours, if the bleeding continued; infusion of roses with sulphate of magnesia and tincture of digitalis was also prescribed; and bladders of ice were ordered to be applied to the pit of the stomach. In the evening, I found him considerably worse; the tongue was very much coated, the pulse quick and thrilling, and he had severe pain, much increased on pressure, over the colon. To be cupped to twelve ounces; to continue the medicine, with the addition of a quarter of a grain of acetate of morphia to each dose.

May 1. Passed more blood during the night, and was extremely restless. Tongue very much coated with a brown yellowish fur; great thirst; pulse still quick and thrilling; bowels freely acted upon; evacuations dark, pitchy, and fœtid; urine high coloured. Whilst I was in the room with him, he became very sick, and again ejected a considerable quantity of blood. Before leaving the room, I gave one drachm of the spirits of Turpentine in a little water. I ordered him to discontinue the other medicines, and to take, instead, three tablespoonfuls of the following mixture every three hours. ℞ Infusi rosæ comp. ʒviiss; tincturæ digitalis ʒiss; magnesiæ sulphatis ʒviij; olei Terebinthinæ purificati ʒiss. M. In the evening, there had been no return of the bleeding; there was still severe pain in the head: the bowels had acted five times; the pulse was softer; the tongue much the same; thirst very great. To drink iced water, and to have ice applied to the head. To continue the mixture, and to have hot Turpentine applied to the bowels.

May 2. Better in every respect; no return of the hæmorrhage. From this day he continued to improve.

May 24. As there was some tenderness in the epigastrium, a seton was ordered. He was subsequently sent to Harrogate; and, under a course of the Cheltenham salines of that place, with small doses of Turpentine, he rapidly regained his health, and has continued well ever since.

Case III. F. H., aged 40, residing in St. Mary's Row, was admitted into the Leeds Public Dispensary, October 19, 1842. The following were her symptoms: pain in the forehead; swelling of the abdomen, without any particular pain; nausea, attended with sanguineous vomiting, small in quantity, occurring every two or three days, and which had already lasted a fortnight before she came under my care. Pulse soft; tongue clean; catamenia irregular, generally very scanty, but, at the time she applied to the dispensary, very profuse; bowels costive. I was at first inclined to suspect uterine disease; but, on a careful examination with the speculum, I could detect no evidence of it. She was ordered to take, every four hours, the following pill: ℞ Plumbi acetatis gr. iij; morphiæ acetatis gr. ¼. M. Two tablespoonfuls of the following mixture were also ordered, every four hours. ℞ Acidi sulphurici diluti ʒij; magnesiæ sulphatis ℥j; misturæ camphoræ ʒvijss. M.

Oct. 20. Much the same. Hæmorrhage from the uterus very profuse; the vomiting of blood appeared to have ceased: the bowels were freely opened; she complained of uneasy sensation round the navel, increased on pressure. To continue the medicine; and to have eight leeches applied to the abdomen, and a blister to the same region at bed-time.

Oct. 21. Not nearly so well; tongue very much furred; gums appeared sore; breath offensive; pulse sharp and vibratory; pain in the head and bowels much increased; had vomited a considerable quantity of blood; slight strangury. To discontinue the lead. ℞ Olei Terebinthinæ ʒiss; pulveris tragacanthæ comp. ʒij; extracti conii ℈ss; tincturæ digitalis ʒj; misturæ camphoræ ℥viiss. M. Three tablespoonfuls every four hours. Warm turpentine to be applied to the loins. ℞ Pulveris ipecacuanhæ compos. gr. x; hydrargyri chloridi gr. ij; fiant pilulæ iij. To be taken at bed time.

Oct. 22. Passed a better night; pain in the head much relieved; the catamenia have ceased; she threw up a small quantity of blood after breakfast; bowels inactive; micturition still scanty, but not painful; had perspired freely during the night. ℞ Olei ricini ʒvj; olei Terebinthinæ ʒss. M. To be taken directly. To continue the last mixture.

Oct. 23. Still improving; no return of the bleeding, complains of great weakness; is very much blanched from the loss of blood. ℞ Potassii iodidi gr. i; pulveris opii gr. ss; extracti lactucæ gr. ij; fiat pilula. To be taken at bed time.

Oct. 24. Much better. To continue the pill. ℞ Olei Terebinthinæ ʒj; tincturæ gentianæ comp. ℥ss; sodæ sesquicarbon. ℈ij; pulveris rhei ʒss; decocti aloes comp. ad ℥xx. M. Two tablespoonfuls twice a day. From this date she continued to mend; and was discharged cured, Dec. 7, 1842.

Case IV. M. H., aged 60, residing at Holbeck, was received into the Leeds Public Dispensary, December 14, 1842. She had been ailing for a long time, and latterly had become jaundiced; she had been much

troubled with pyrosis for some weeks, and informed me, that she had noticed the abdomen to be considerably swelled, before she went to bed. On the day of her admission, she was seized with sickness, and vomited about a pint of blood; this, she stated, gave her great relief. There was considerable tenderness over the stomach; the liver was painful to the touch, hard, and apparently very much enlarged. The bowels were lax, and had been so for some time. The urine was dark; she had a bitterish taste in her mouth; the tongue was coated with a yellowish white fur; the conjunctivæ were yellow; the pulse small, irritable, and quick; the skin dry. She was ordered to have eight leeches applied to the right side, and to take the following pills immediately. ℞ Pilulæ hydrargyri gr. iij; calomelanos gr. i; pulveris ipecac. compositi gr. viij. M. Fiant pilulæ ij. ℞ Spiritûs Terebinthinæ ʒi; infusi juniperi comp. ʒviiss; sodæ sesquicarbonatis ʒi. M. Two tablespoonfuls every four hours.

Oct. 15. She had headache, occasioned by the opium; had parted with more blood during the night; bowels not relieved since yesterday. ℞ Olei ricini ʒiv; tincturæ rhei compositæ ʒij; olei Terebinthinæ m. xx. M. To be taken directly. ℞ Unguenti hydrargyri fortioris ʒij; camphoræ ℈ij. A small portion to be rubbed over the region of the liver every night.

Oct. 16. Very much jaundiced; feels better; bleeding checked. To continue the mixture. ℞ Pilulæ hydrargyri gr. v; extracti colocynthidis compositi gr. iv. Fiant pilulæ ij. To be taken every night.

Oct. 20. Mouth tender; has had no return of the hæmorrhage; symptoms improving; still troubled with waterbrash. ℞ Extracti taraxaci ʒj; pulveris rhei ʒj; olei Terebinthinæ ʒj; potassæ tartratis ʒi; aquæ ad ʒviij. M. Two tablespoonfuls every six hours. R. Bismuthi trisnitratis gr. iij.; extracti taraxaci gr. ij. M. To be taken twice daily. This patient was discharged cured, January 4, 1843.

Epistaxis. Since I have prescribed Turpentine in this affection, I have rarely seen the bleeding continue more than two or three days. In these cases, I mostly combine the Turpentine with muriated tincture of iron.

Case v. A lady, considerably advanced in years, and who had from infancy been subject to hæmorrhage from the nostrils, consulted me about two years ago, when labouring under one of her periodical attacks. She informed me, that she had rarely of late had the bleeding arrested without plugging, and even then the hæmorrhage was liable to recur on the most trifling excitement, or extra exertion At her request, I plugged the nostril; and gave her the infusion of matico, with pills of acetate of lead. The complaint proved troublesome, and it was three weeks before the hæmorrhage had completely ceased. This, she told me, was about the length of time that these attacks generally lasted; they always left her very much enfeebled. About fourteen months after this, I was suddenly summoned in the middle of the night to the same lady, who had a recurrence of her complaint. After plugging the nostril, I gave her a drachm of the oil of Turpentine, with ten minims of the muriated tincture of iron, in a little water, and ordered half the quantity of the same medicine every two hours, if the bleeding continued. At my morning visit, I found that the hæmorrhage had been successfully arrested. In

three days the plug was removed; and, up to the present time, she has had no return of the bleeding.

My confidence in this remedy, for arresting atonic epistaxis, is unbounded. I have frequently trusted to it alone, without resorting either to plugging, or to the employment of any other astringent.

Case vi. A poor man (a bookbinder, residing in Union Street,) called at my house, a short time age, bleeding profusely from the nose; a drachm of oil of Turpentine was immediately given to him in water; as he had a little distance to go, and it being a very cold night, I plugged the nostril. In removing the plug on retiring to bed, he brought on a return of the bleeding. Another drachm of Turpentine was administered. In three days he was perfectly well.

Hæmaturia. The propriety of prescribing oil of Turpentine in Hæmaturia has been doubted by many. It has been reported to have produced the very disease which it was intended to alleviate. I have never seen any ill effects from its use in this disorder: but, on the contrary, I regard the judicious administration of Turpentine calculated to arrest its course. There may be cases of organic change in the structure of some parts of the urinary organs, which might render its employment objectionable; but, hitherto, I have not met with any such.

Case vii. W. W., aged 19, of spare habit, slight stature, pale and sallow complexion; works in a flax mill. His symptoms had lasted three days prior to his appearance at the Leeds Dispensary, June 4, 1842. They were dull, deep-seated, aching pain in the lumbar region, tenesmus with frequent bloody micturition, anorexia and fever. He had been subject to these attacks for the last two years, and latterly they had recurred at shorter intervals. ℞ Pulveris uvæ ursi gr. x. To be taken three times a day. ℞ Pulveris jalapæ comp. gr. xv; calomelanos gr. ij. To be taken at bed time.

June 6. Hæmorrhage still continues. ℞ Pulveris uvæ ursi ʒj; olei menthæ piperitæ m. ij; olei Terebinthinæ ʒij; pulveris tragacanthæ comp. ʒj; aquæ ad ʒviij. M. Two tablespoonfuls every four hours. ℞ Antimonii potassio-tartratis ʒj; olei tiglii ʒj; liquoris ammoniæ fortioris ʒiv; spiritûs Terebinthinæ ʒi M. Liniment to be rubbed into the loins at bed time every night.

June 8. Much improved; liniment has produced a copious crop of pustules; urine clear; no blood.

June 15. Discharged cured. Two years after, this patient informed me, that he had not had any relapse.

Case viii. A. W., aged 68, a dispensary patient, admitted August 10, 1842. She had been ill about a week, and had had considerable pain in the left side and shoulder, also diarrhœa, and blood in the urine. ℞ Misturæ cretæ comp. ʒvij; confectionis aromaticæ ʒj; pulveris uvæ ursi ʒiss.; tinct. opii ʒss. M. Two table-spoonfuls every four hours.

Aug. 14. Bowels more comfortable; still parts with blood in the urine. To repeat mixture, with a drachm of oil of Turpentine.

Sept. 6. Had a slight relapse attended with nausea. ℞ Acidi nitrici dil. ʒij; olei Terebinthinæ ʒi; acidi hydrocyanici dil. (P.L. 1836) ʒss; aquæ ad ʒviii. M. Two tablespoonfuls twice or thrice daily. This patient was discharged cured, on the 19th. She died about a year after, under the care of one of my colleagues, of another affection. An autopsy was not allowed.

Case ix. M. S., aged 26, married, a collier, was admitted January 12, 1843, as an out-patient to the Leeds Dispensary. He had been ill for several days, with fever, attended with great thirst, headache, foul tongue, and severe lancinating pain in the lumbar region, extending to the left knee. Urine in small quantity, bloody. Bowels constipated. He was sounded for stone, but nothing was detected. He attributed his ailment to cold. ℞ Pilulæ hydrarg. gr. iij; calomelanos gr. i; pilulæ aloes cum myrrhâ gr. vj. M. ut fiant pil. ij. To be taken at bed time. Ung. antimonii potassio-tart. ʒi, to be rubbed into the loins every night. ℞ Magnesiæ sulphatis ʒi; olei Terebinthinæ ʒi; pulveris uvæ ursi ʒi; misturæ camphoræ ʒviij. Two tablespoonfuls every four hours. This patient was discharged cured, January 20.

Capillary Hæmorrhage. I have not witnessed many instances of this disorder, but the following case may, I think, be fairly considered as an example.

Case x. J. C., residing at Burmandtofts, Leeds, consulted me on the 19th of October, 1842. He was of a spare make, aged thirty-two, and followed the occupation of a town missionary. He was frequently attacked with ephemeral fever, arising, no doubt, from the daily exposure to miasmatic influence, whilst administering religious consolation to the indigent sick. It was immediately subsequent to one of these attacks, that he was seized with jaundice, attended with an exacerbation of all the febrile symptoms. The alvine evacuations were clay-coloured and scanty, the urine in small quantity, and of a deep red tinge, and the skin moist. As this patient was peculiarly sensitive to the influence of mercury, I was cautious in prescribing it. He was ordered to take the following pills at bed time:—℞ Pilulæ hydrargyri gr. iij; pulveris ipecac. gr. ss. M. The following mixture was also prescribed. ℞ Infusi sennæ ʒviij; antimonii potassio-tartratis gr. i; magnesiæ sulphatis ʒi. M. Two table-spoonfuls every six hours.

Oct. 21. On this day I was urgently sent for to Mr. C., who was reported to have burst a blood-vessel. Not being able to leave a female patient, whom I was then visiting, I requested the messenger to call in some other medical man. At eleven o'clock the same evening, the messenger informed me that they had called in the nearest neighbouring practitioner, but the hæmorrhage still continued. When I arrived, I found that the doses of blue pill, which Mr. C. had taken the two previous nights, had brought on ptyalism. The saliva was mingled with blood, which oozed from the upper surface of the tongue. On examining the mouth, I found the tongue enormously swollen and distended. The patient seemed much exhausted and frightened, for the bloody saliva, every now and then, gushed from his mouth in large quantities. He had taken acetate of lead and nitric acid. I immediately gave him a drachm of the oil of Turpentine in water, and applied creasote all over the upper surface of the tongue. In an hour, the hæmorrhagic secretion appeared less profuse; another dose of the Turpentine was administered. At two o'clock in the morning I left him, the bleeding having ceased. I ordered the Turpentine to be given in half-drachm doses every hour.

Oct. 22. The patient was considerably better at my morning visit; there had been no return of the hæmorrhage, and the salivation was

materially lessened. The jaundice, however, still continued. ℞ Olei Terebinthinæ purif. ʒj; extracti taraxaci ʒss; sodæ sulphatis ʒj; aquæ ad ʒvj. M. Two tablespoonfuls twice daily. In a short time Mr. C. was convalescent. I advised him, however, to continue the Turpentine, in combination with muriated tincture of iron and infusion of quassia. He subsequently enjoyed much better health than he had for years previously.

During my house-surgeoncy at the Charing Cross Hospital, in 1836 and 1837, a little boy was admitted, under the care of the late Mr. Howship, suffering from necrosis of the tibia. This child belonged to a family in which the hæmorrhagic diathesis was strongly developed. One, if not two (I quote from memory), of the child's relatives had died from sanguineous exudation after slight injuries. It was decided, on a careful consideration of the case, to remove the dead portion of bone, to effect which, it was necessary to make an incision of about an inch long, through the integuments covering the tibia. The operation, which was skilfully performed by Mr. Howship, did not occupy many minutes. The boy was removed to his bed in high spirits, but, in a few hours, a remarkable change occurred; the bleeding from the cutaneous vessels continued, notwithstanding the application of powerful styptics, and the child, who had now become pale and blanched, from loss of blood, sank in a few hours after the operation. I have often deeply regretted that Turpentine was not administered in this instance. I have alluded to it, in order, that should a similar one occur, this remedy may not be lost sight of.

Purpura Hæmorrhagica. Until the year 1846, I had very few opportunities of testing the therapeutic properties of Turpentine in this affection; but in the severe epidemic of this disorder, which took place among the poor, from the deficiency of the potatoe crop, and scarcity of vegetable food, in the winters of 1846 and 1847, I generally found Turpentine, in combination with bark and full purgative doses of Cheltenham saline waters, a very effectual remedy.

Case xi. R. H., aged forty-seven, a cook, unmarried, who for twelve months had been out of a situation, applied to me for advice, Sept. 22, 1847. The following were her symptoms:—Bilious retching; pain in the left side; pain darting from the left kidney to the brim of the pelvis; great dyspnœa, pulse 96, small and weak; respiration 26, rapid and short; bowels constipated; catamenia ceased three years; complexion pale and sallow; tongue furred and indented; breath fœtid; gums spongy: urine high coloured, loaded with lithates; purplish petichiæ, most extensive on the left side of the body; ankles swollen; often much annoyed with flatulency. This woman had eaten sparingly of vegetables the previous winter; her diet had chiefly consisted of boiled rice, a diminished quantity of bacon, salted fish, fresh meat, bread, and tea. ℞ Pilulæ hydrar. gr. iij; extracti colocynthidis compositi gr. vj. Fiant pilulæ ij. To be taken at bed time. ℞ Acidi nitrici diluti ʒi; tincturæ cinchonæ ʒiv; infusi cinchonæ ad ʒviij. M. Two tablespoonfuls morning and evening. To eat freely of cooked vegetables, and have cider or perry for dinner.

Sept. 26. Much about the same—nights disturbed. To take two tablespoonfuls of the following mixture twice daily:—℞ Acidi nitrici

diluti ʒi; tincturæ cinchonæ ʒiv; olei Terebinthinæ, tincturæ hyoscyami aa. ʒii; infusi cinchonæ ad ʒviij. M. The pills to be omitted.

Oct. 2. Eruption declining—bowels costive. To have a nitro-hydrochloric acid bath. ℞ Pilulæ hydrargyri ϑi; extracti colocynth. compos. ʒi; pilulæ galbani comp. ϑij. M. et divide in pilulas xxx. Two to be taken twice a week. To take ʒxviij of the sulphuretted saline water every morning.

Oct. 10. Decidedly improved. To repeat the warm bath; to continue the saline aperient, adding to each morning dose a teaspoonful of the following drops. R. Tincturæ cinchonæ ʒi; olei Terebinthinæ ʒss M. This woman was perfectly well by the end of the month.

Hæmoptysis. This affection is generally associated with pulmonary phthisis, so that I shall treat of it in connexion with that disorder. As the use of Turpentine is not new in the treatment of pulmonary consumption, I shall condense my remarks as much as possible. I am not aware that the inhalation of the vapour has ever been recommended in pectoral disorders. I have not only found it useful in allaying the cough in acute and chronic bronchitis, but I have also seen a very great amendment follow its use in tubercular phthisis. The success which attended the inhalation of tar vapour, first recommended by Bishop Berkely, and so highly extolled by Sir A. Crichton, was, no doubt, owing to its volatile principles, analogous, in some respects, to those of Turpentine, from which it differs in containing a larger amount of carbon and empyreumatic oil, and less of the essential oil. "Out of fifty-four cases treated by Drs. Hufeland and Neumann, at the Hospital of La Charité, Berlin, four were cured; six were greatly improved; sixteen were unaffected by it; twelve became worse; and sixteen died." I have frequently resorted to the use of medicated vapours, containing Turpentine, conium, opium, and hydrocyanic acid, in every stage of this disorder. In the active form of pulmonary hæmorrhage, as well as in the distressing paroxysms of the morning cough, I have seen them produce a very tranquillizing effect. From the inquiries which I have made at the different Camphine and Turpentine manufactories, I have learnt, that the individuals engaged in the distillation of these ingredients are rarely on the sick list. Turpentine is considered by the men generally, to possess very healing properties. Applied to the lungs, in the form of vapour, or taken internally, I conceive that it exerts a benign influence in an ulcerated condition of these organs; and by inducing a healthy condition of the ulcerated surfaces, tends to produce cicatrization, after the morbid contents have been evacuated from the vomicæ, and the system improved by tonic or other remedies. It is known to exercise a salutary influence in chronic ulcers, indolent sores, and recent abrasions: *cæteris paribus*, it will have the same effect on internal ulcerations when cautiously inhaled or judiciously prescribed. In the following observations, in lieu of enumerating a variety of physical phenomena as elucidatory of incipient or confirmed phthisis, I shall confine myself to what is usually considered as the most unequivocal symptom of this disorder. The physical phenomena deduced by exploration of the pulmonary parietes, do not always furnish criteria on which we can depend with unbiassed confidence; but there is no sign

so strongly confirmatory of serious thoracic mischief, as pulmonary hæmorrhage; and whether it be occasioned by a plethoric condition of the heart or great vessels, or a congestive state of any of the cerebral or abdominal viscera, or by disease inherent in the texture of the lungs, the sequence too often proves its connexion with pulmonary consumption. I do not profess to have cured phthisis in any of the instances which I am about to narrate. All that I wish to imply is, that Turpentine has been more successful in restraining the hæmorrhagic tendency, and preserving the patients in a condition of apparent health, and for a much longer period, than any other remedy of which I have made trial. I have purposely abstained from the narration of any case of very recent date, knowing, that in a disorder of so deceptive a nature as phthisis, we ought to be especially guarded as to our prognosis, and not be too rash in forming our judgment of the future.

Case xii. Mr. W., aged 36, cabinet-maker, consulted me on the 14th of May, 1839, for a pain in his chest, attended with considerable dyspnœa. The physical signs denoted incipient phthisis; and this diagnosis was confirmed a few weeks after, by the occurrence of hæmoptysis. Leeching, blistering, and counter-irritants were ordered, and a mixture containing Turpentine and infusion of roses. He improved under this treatment: and after a residence of some months in the Isle of Man, he returned home, and pursued his usual avocation. Four years afterwards, he was attacked with inflammation of the bowels, from exposure to cold and damp, which proved fatal. On examination of the body, the right lung contained a small cavity, which had a very healthy appearance; it contained a little yellowish matter; its lower edges were crossed and united by bands easily rent asunder. There was a considerable amount of miliary deposit in the apex of the same lung, but none in the other.

Case xiii. A. S., aged 30, married, without family, a gardener, was admitted to the Leeds Dispensary, July 6, 1842, suffering from profuse hæmorrhage of the lungs. There was considerable dulness in the upper portion of both lungs; gurgling rhonchi. This case proved intractable for some time, but the hæmoptysis was finally subdued, and the man resumed his usual employment, continuing, by my advice, to take daily a few drops of Turpentine with infusion of quassia. When last I heard of him, he seemed to be in tolerable health.

Case xiv. A married lady consulted me in 1841, for supposed tubercular disease. On examining the chest, there was slight depression to the extent of about a quarter of an inch in the right infra-clavicular region. The nipple on the breast of the same side, was the eighth of an inch nearer the sternum than the one on the left. The respiration was masked, and percussion elicited a damp sound. The left side was clear on percussion, and respiration was puerile. The appetite was extremely capricious, the bowels irregular, catamenia regular, nights restless, urine turbid, yellow with deposit; there was constant teasing cough, with slight hæmoptysis. She had also a gnawing sensation in the pit of the stomach, with a tendency to retching. To have six leeches applied to the chest. ℞ Olei jecoris aselli ʒiss; liquoris ammoniæ fortis ʒss; linim. saponis compos. ad ʒiij. M. To be rubbed on the chest night and morning. To take two tablespoonfuls of the following mixture three times a day. ℞ Infusi rosæ compos. ʒvj; magnesiæ sulphatis ʒvj; olei Terebin-

thinæ ʒij. M. ℞ Extracti colocynth. comp. gr. vj ; morphiæ acet. gr. ss ; pilulæ hydrarg. gr. iij. Fiant pilulæ ij. To be taken at bed time.

The following day this patient passed several portions of tape-worm. She recovered, and by perseverance in the following mixtures for some time, together with a temporary residence at the sea side, she ultimately regained her former health, and the last account I had was highly favourable ; she has had no appearance of tape-worm since. ℞ Mist. ferri comp. ʒvijss ; olei Terebinthinæ ʒij ; tincturæ camphoræ comp. ʒij. M. Two tablespoonfuls twice a day.

Case xv. A. O , washerwoman, complained of severe cough, with mucous expectoration, which, a few days previously, had been mixed with blood ; there was great pain in the left side, with inability to lie on it ; pulse 100, sharp and thrilling ; respiration 28, short ; bowels regular ; catamenia regular ; urine scanty, high coloured ; tongue pale and dry ; there was feverishness and restlessness. Both infra-clavicular regions were slightly depressed ; in the upper third of the left lung the expiratory murmur was harsh and prolonged, with small crepitating râle ; there was also slight dulness on percussion, anteriorly and posteriorly. On the right side, there was increased expiratory murmur, and clear percussion-sound. There was also bronchophony. The action of the heart was more distinct than natural under the right clavicle ; posteriorly it was diffused. She was ordered to take the following pills at bed-time. R. Calomelanos gr. iij ; extr. colocynth. comp. gr. vj. M. R. Potassæ nitrat. ʒss. ; tincturæ digitalis ʒi ; syrupi scillæ ʒiv ; aquæ ad ʒviij. M. A fourth part every four hours.

Nov. 19, 1843. Had rather a sharp attack of dyspnœa, with return of pulmonary hæmorrhage. A blister was ordered to be applied to the chest, and two table-spoonfuls of the following mixture to be taken every four hours : R. Olei Terebinthinæ ʒij ; tincturæ digitalis ʒi ; decocti aloes comp. ʒviij. M. Under this treatment, this patient continued to improve. She took occasionally linseed oil, cod-liver oil, and sarsaparilla, with Turpentine and lime-water ; and in the following summer had become convalescent.

Case xvi. Mrs. W., a married lady, aged 26, without children, had for several years been in a declining state of health. I first saw her in 1848 ; she was extremely pale and emaciated, and had for some time previous parted with small quantities of florid blood. These attacks of hæmorrhage mostly occurred in the morning. Her nights were very much disturbed ; she had paroxysms of flushing, succeeded by profuse perspiration. Exploration of the thoracic viscera impressed me most unfavourably with this patient's condition. Nearly fifteen months she was confined to her room, and used Turpentine inhalations, infusions of matico with Turpentine, infusions of the water hemlock, occasionally replaced by cod-liver oil and emulsions of almond oil and hydrocyanic acid. Her chest was assiduously bathed with spirits of Turpentine, and, in addition, she had two galvanic issues established under each clavicle. In the autumn of 1848, while improving in health, she had an attack of scarlet fever, which confined her for some months longer to her room. In the following summer, she rallied sufficiently to take a trip to the sea-side, and after a residence there of some time, she was enabled once more to join the ordinary duties of the domestic circle.

Case xvii. A. B., aged 21, a spinner in a flax-mill, was admitted under my care, into the Leeds Dispensary. The catamenia were suppressed, the skin moist, the bowels relaxed: pulse 100, sharp, small; respiration 30, irregular; severe pain in the right side; constant cough; puriform expectoration; profuse hæmoptysis; papular eruption on the right leg, with œdema of the ankles. She was cupped and blistered; and, after the first febrile symptoms had subsided, she took ferruginous preparations, with decoction of aloes, and Turpentine. In a few months, this patient recovered sufficiently to return to her work.

Case xviii. M. C., aged 22, had the following symptoms: constant teasing cough; greenish expectoration; severe pain in the heart and chest; bowels loose; tongue clean; night-sweats, and hectic fever.

May 3, 1843. She was ordered to take naphtha, with ling-liver oil, and to have a blister applied to the chest.

May 10. Much worse; great dulness on the right side, with absence of respiratory murmur; crumpling sound in the right infrascapular region; left side normal, with increased respiratory murmur. She had hæmoptysis, and the bowels were still loose. R. Pil. saponis cum opio gr. iv; to be taken at bed-time. R. Olei olivæ ʒi; spiritûs Terebinthinæ ʒi; tincturæ digitalis ʒi; liquoris potassæ ʒi; liquoris opii sedativi ʒss; aquæ ad ʒviij. M. Two table-spoonfuls every two hours. She improved under this treatment; and the following medicine was ordered. R. Quinæ disulphatis gr. vj; acidi sulphurici diluti ʒss; olei Terebinthinæ ʒi; tincturæ camphoræ comp. ʒij; infusi quassiæ ad ʒviij. M. Two tablespoonfuls three times a day. In a few months, convalescence was established.

Case xix. S. R., aged 19, dressmaker, was admitted, under my care, into the Cheltenham General Hospital and Dispensary, in October 1846. She had been, for some time, frequently seized with chills, alternately with flushing; great pain and tenderness on the left side; cough with mucous expectoration, accompanied sometimes with a small quantity of blood of a bright florid colour; small weak pulse, 92; respiration laboured, 28; obstinate constipation; urine scanty, opalescent, specific gravity 1026. She was treated with liniments of pyroligneous acid and oil of Turpentine; blisters; cathartics; and Terebinthinous medicines. The bleeding was arrested, and convalescence established. She took a course of the Pitville saline, with Turpentine, with great advantage, and has hitherto had no relapse.

Case xx. A youth, aged 18, apprentice to a grocer, was seized with hæmoptysis on the 6th March, 1842. He had previously been, for some time, under my care, and had manifested indications of incipient phthisis. After subduing the more prominent affection, the pulmonary hæmorrhage, by means of Turpentine mixtures, counter-irritation, and local bleeding, I advised an early removal to the Isle of Man. The youth inhaled freely the Turpentine vapour, and I daily tested the vital capacity of the chest by means of the pulmometer. This, I think, tended considerably to his recovery. The habit of cautious prolonged inspiration often acts beneficially on the system of phthisical patients; emphysema may also occasionally be induced, and when this has resulted, tubercular phthisis has been known to be arrested. Two years after, when I examined this youth's chest, I could detect a marked difference in the

respiratory movements of the right and left side. He could, however, with ease displace ʒc of water in the pneumatic trough. When first I saw him it required a very forcible expiration to effect the dislodgement of ʒlxx. When I recently heard of him, he was alive, and enjoying a tolerable share of health.

It is extremely difficult to lay down any plan for guidance in the treatment of phthisis. I have tried several remedies with apparent benefit. But though I have related the above cases, which vary in their dates from ten to two years ago, I should hesitate ere I asserted that I had cured one case of pulmonary consumption. Nevertheless, I believe the disease capable of being favourably influenced by treatment, and even of being often brought to a successful termination, as I have no doubt some of the cases I have related will hereafter testify.

Parasitic Worms. I know of no remedy comparable to the oil of Turpentine for the expulsion of parasitical animals. To accomplish this object, I place little reliance on the purgative action induced by the medicine, but I depend chiefly on the dissemination of the Terebinthinous principles throughout the animal tissues. The only way effectually to destroy these animals, is to render the aliment on which they subsist unfit for them. In fevers of a low or putrid character, in scarlatina and some of the exanthemata, worms are frequently expelled, *per vias naturales*, prior to death, by the noxious emanations which often exist in these affections, and which are destructive to parasitical life. It ought to be our aim to imitate nature; and where it can safely be done, to taint the food on which the different species of the entozoa feed, with such noxious ingredients as are known to be inimical to them. Thus Dippel's animal oil, Chabert's oil, and similar nostrums, are valuable only so far as they carry out this important object. Turpentine will effect the entire destruction of any of the entozoa and their ova, provided it be given in small doses, and continued for a sufficient length of time to saturate the system with its odour. Purgative doses of Turpentine, or enemata containing the same, decoctions of the bark of the root of the pomegranate, and many of our most esteemed vermifuges, will often suffice for the removal or destruction of lumbrici or ascarides. In tapeworm, in many instances, a different treatment is required. We may frequently succeed with the above remedies, but we occasionally fail. This is owing to the habits of the animal. It forms a nidus of gelatinous matter, into which it protrudes its head and neck after it has separated itself from the remaining joints of the body, and then, on the first intimation of danger, attaches itself to the intestine by means of its four suckers so firmly, as to defy any reasonable force to detach it. The tail of the animal is occasionally met with high up in the bowels, and even in the stomach, whilst the head occupies a position in the intestinal tract considerably lower. This may be a provision of nature to warn it of the presence of any noxious or irritating ingredient in the stomach, and thus to enable the animal to preserve its vitality. From the fluted manner in which it sometimes lays along the intestine, it must be extremely difficult to effect its expulsion, except by medicines which exert a poisonous action on it through its food. Vermifuges, when taken by the mouth, have frequently occasioned yards to be brought away by vomiting; but the animal remains secure in his retreat. If, however,

we give small doses of Turpentine, or any empyreumatic oil, the secretions will at length become so tainted, that we cause its death and subsequent expulsion or absorption: and though we may never see it expelled, we may be pretty confident that we have occasioned its death, by the subsidence of all those symptoms and distressing sensations, which it produces whilst alive.

Case xxi. A female, who for upwards of twenty years had repeatedly expelled considerable portions of tape-worm, applied to me, in 1843. She had taken Turpentine in full doses, and had generally been much relieved by it; but the parasite still remained. I ordered half an ounce of oil of Turpentine, half an ounce of castor oil, and an ounce of the decoction of the bark of the root of the pomegranate, to be taken every morning. She parted with several yards of worm; but as I could not detect the head amongst any portion, I advised her to take two tablespoonfuls of the following mixture daily, for three months. R. Infusi quassiæ ʒviij; olei Terebinthinæ ʒij; tincturæ ferri sesquichloridi ʒi. M. She attended to my advice; and, two years after, she told me that she had had no return of any of her uneasy sensations.

Case xxii. A cook, in my employ, had for years been the subject of tape-worm, and had taken Turpentine repeatedly, without deriving any other than temporary benefit from it. I put her on a plan similar to the former; and in a few months she found her health perfectly re-established, and has hitherto had no return of the affection.

I have seen two instances in which grubs have occasioned much annoyance and distress, by depositing their ova in the urethra.

Case xxiii. A young gentleman, about 22 years of age, had intolerable itching at the end of the urethra, which generally occurred every four or five weeks, lasted for three days, and subsided as soon as the larvæ (small white-bodied animalcules with black heads,) appeared. I advised him to inject a few drops of Turpentine in mucilage, two or three times a day, into the urethra; and to take ten drops of the same in infusion of quassia twice daily. This plan succeeded, and he recovered.

Chronic Rheumatism. In this affection I have frequently found that the Oil of Turpentine, combined with bark or guaicum, has given considerable relief.[1]

Flatulent Distension of the Abdomen. This is a distressing symptom, which often accompanies a dyspeptic state of the system, especially in gouty patients. It is sometimes attended with nervous excitement of the heart, sometimes accompanied by spasm of the bowels, and dyspnœa. For the relief of this symptom, whether originating from mal-assimilation of the food, or supervening on obstruction of the bowels, or occurring after an operation for strangulated hernia, I have found no medicine so efficacious in quickly dispelling the flatus, as Oil of Turpentine. In gouty subjects who freely secrete lithic acid, and who are much troubled with this kind of flatulency, I have rarely ever experienced that small doses of the oil of Turpentine, with or without

[1] I have also seen the alkaline camphine bath of very great service, in some long standing cases of this disorder. I have tried it in lumbago, sciatica, and gout, and can speak highly favourably of it in these affections. Many of the parties who have tried it, have derived so much benefit from it, in the alleviation of their aches and pains, that I have known them to resort to it oftener than I had advised.

colchicum, have failed to afford very great relief, more particularly when accompanied by a mild diuretic course of our Cheltenham salines. It is of the greatest importance to avoid active purgation in this state of the system.

The following is a very interesting case of the removal of a large biliary calculus, which for several days assumed a very serious aspect, threatening the life of my patient.

Case xxiv. An elderly lady was seized with sudden sickness and pain in the præcordial region, followed by obstruction of the bowels. Large doses of calomel, croton oil, and other drastic purgatives, were given to relieve the latter; creasote and hydrocyanic acid, for the former. Local bleeding was employed, and stimulating applications and bladders containing ice, were applied in turns to the abdomen. Enemata of Turpentine and rue were also administered, without producing any favourable change. On the contrary, the sickness became so distressing, that on the sixth day of the attack, it was decided in consultation, to abandon all remedies by the mouth, and trust entirely to Turpentine clysters and the local application of ice and of epithems containing cajeput oil, Turpentine, opium, croton oil, liquor ammoniæ, etc. On the seventh day, the abdomen became enormously distended with flatus, a considerable quantity of which was withdrawn from the bowels several times in the day, by means of the tube of a stomach-pump introduced into the rectum. After the gas was pumped out, upwards of a gallon of iced water was thrown into the bowels; and as soon as this was evacuated, about a quart of warm water, containing Turpentine, was immediately injected. This plan was persevered in until the eleventh day; and notwithstanding the supervention of hiccup, and several other unfavourable indications, the patient at last obtained relief. A hard substance seemed suddenly to be disengaged from a portion of the small intestines. Shortly after one of these operations, a regular action of the bowels ensued; and on the fourteenth day she passed a biliary calculus, of the size of a walnut, and weighing ʒii, gr. xi. Its upper surface was perfectly smooth and concave, and appeared to have been attached to a smooth substance, such as the lining membrane of the gall-bladder. For twenty years, this lady had complained of pain in the pit of the stomach after eating, and had never had an action of the bowels without strong drastic purgatives. A tea-spoonful of castor oil, with ten drops of Turpentine, were ordered to be taken every morning; and in a few days she became perfectly convalescent, and has continued well from that day.

Puerperal Convulsions and Peritonitis. Those who see an analogy between puerperal convulsions and peritonitis, will be inclined to regard Turpentine as likely to prove extremely valuable in the former disorder. Repeatedly have I treated puerperal convulsions, and puerperal peritonitis, as well as peritonitis independent of the parturient state, with this medicine, and have attributed the rapid subsidence of the more prominent symptoms to its influence.

Case xxv. A. C., aged seventeen years and a half, residing at New Town, Leeds, was seized with convulsions of a most formidable character, a few hours after she had given birth to a male child. The gentleman who attended her in the confinement, requested my advice in the case.

Detrahatur sanguis è brachio ad ʒxx. Calomelanos gr. vj. To be taken directly. R. Ol. Terebinthinæ ʒiv; magn. sulphat. ʒi; aquæ ad ʒviij. Two tablespoonfuls every two hours. Enema of Turpentine and gruel. In six hours, this patient recovered consciousness, and, from that period, progressed favourably.

Case xxvi. M. C., aged twenty-nine, was seized, on the 5th of Feb. 1843, with intense pain in the head; great prostration of the vital powers; small, weak, fluttering pulse; abdominal tenderness; retraction of the lower extremities; constipation, and pyrexia. She had been confined two days previously of a male child. Bladders of ice to be applied to the shaven head; warm Turpentine to the bowels; Turpentine enema. V. S. ad deliquium animi. Twenty-four ounces of blood were lost, before fainting ensued. R. Calomelanos gr. iij; pulv. opii gr. ss. Fiat pilula. To be taken every three hours. R. Olei Terebinthinæ ʒss; mist. sennæ comp. ʒviiss. M. Two tablespoonfuls an hour after each dose of the pills. This patient's mouth soon became affected, and she speedily recovered.

Case xxvii. A female servant, residing with a patient of mine, was taken ill a short time ago, with symptoms of diffused peritonitis. The bowels were extremely obstinate, and the retching incessant. She was largely bled, both locally and generally; mixtures containing Turpentine, and pills of calomel and colocynth, were freely administered; clysters and Turpentine epithems were also resorted to. Towards the termination of the fourth day, the bowels regained their propulsive power. Large quantities of fæcal matter were evacuated; and by persistence in small doses of castor oil and Turpentine, with vegetable tonics, she soon recovered her former health.

Diseases of the Eye. The testimony of several celebrated oculists has been adduced in favour of this drug in the treatment of many inflammatory affections of the eye. I am not able to say anything, either for or against its use. As yet, I have never made trial of it in disorders of that organ.

Diseases of the Nervous System. Turpentine has been considered to be of eminent service in apoplexy, hydrocephalus, and epilepsy. One case of *hydrocephalus*, a little boy, seven years of age, seemed to be very much benefited after the administration of a few enemata containing this drug, and the child eventually recovered. In *apoplexy*, I have witnessed a like result; but I do not consider this, and similar instances, sufficiently decisive to warrant me in concluding that Turpentine exercised a controlling power over the disease, otherwise than by its purgative action. In *epilepsy*, depending upon intestinal irritation, such as worms, purgative doses of, or enema containing, Turpentine, will generally be found efficacious. Nevertheless, the majority of epileptic patients will not derive any very great advantage from it. In such examples, we must ascertain the cause of the malady, which may often be of a character over which medicine possesses but little anti-convulsive influence.

Injuries occurring from Burns or Scalds. I have often seen these much benefited by the Terebinthinous unguents, or liniments, which I have recommended to be applied.

Case xxviii. A young female was dreadfully scorched by the sudden ignition of some foul air, pent up in a water cistern. She had inad-

vertently placed a lighted candle on the edge of the cistern whilst she removed the lid—an instantaneous explosion followed this act. She was thrown down; and on examination, was found to be considerably burnt about the hands, face, neck, and right arm. The following liniment was applied to the denuded surfaces, and other appropriate treatment enjoined. R. Pulveris opii gr. viii; liquoris calcis ʒi; olei Terebinthinæ ʒiv; olei lini ʒss. M. ut fiat linimentum. She soon recovered from these injuries.

Pertussis. In the second and third stages of this affection, I have frequently found liniments of Turpentine, with opium, rubbed on the spine and chest, of considerable value in mitigating the severity of the paroxysms. The inhalation of the vapour has also appeared to me to exert a calmative influence on the convulsive character of the cough.

Case xxix. Master C., aged 4 years, a stout, healthy-looking child, was the subject of hooping-cough, in the spring of 1845. The paroxysms were extremely violent, of frequent recurrence; and, as he had already lost two brothers by the same affection, the case caused considerable anxiety. I requested that he might be confined in a room, the temperature of which should not be less than 65° Fahr., by night as well as by day. To attain tranquillity of mind (a necessary item in the treatment of this malady), I desired that all scenes of excitement should be avoided; for I have known this to prolong the disorder, and even to be the cause of a fatal termination. A bath at 100°, containing half an ounce of the carbonate of potash to six gallons of water, was used three times a week; and the back and chest were rubbed every night with the following liniment. R. Olei Terebinthinæ purif. ʒiv; liquoris opii sedativi ʒij; olei succini ʒiss; linimenti saponis comp. ad ʒiss. M. The bowels were relieved by gentle laxatives, and the child was allowed to drink, *ad libitum*, of the following potion. Bicarbonate of potash, two drachms; extract of liquorice, half an ounce; honey, two ounces; boiling water, one quart. The effect of this treatment was very apparent in the altered and less suffocative character of the cough, which, after the first fortnight, rarely occasioned much uneasiness, except after a very long sleep. Change of air, with decoction of bark and small doses of Turpentine, and the occasional exhibition of the compound kino powder at bed-time, completed the cure.

I have recently witnessed very great improvement follow the immersion of the lower part of the body, as far as the chest, in an alkaline camphine bath. The proportion of camphine ought not to exceed, (for children under six years of age), from two to three drachms with three or four ounces of soda. The vapour of the bath, diffused through the sleeping apartment, and inhaled into the lungs, has seemed to have a very beneficial and tranquillizing tendency in this disorder. There can be no doubt also, that the absorption of the alkali, by rendering the pituitous secretion from the pulmonary organs less adhesive and tenacious, has contributed in no small degree to the relief obtained.

I have now concluded my remarks upon the medicinal properties of this drug. In the evidence which I have adduced, I have endeavoured to guard myself from an over-weening confidence in its virtues. In the treatment of any case, however simple, much must be left to the

judgment of the practitioner under whose care it has come. Like many other medicines, Turpentine may fail in producing the effects desired, if all the circumstances which may modify its action be not duly taken into account: but, when judiciously administered, I believe it to be one of the most valuable remedial agents which we possess.

Cheltenham, March 1850.

ON THE CONNEXION OF UTERINE AND OVARIAN DISEASE.

By EDWARD JOHN TILT, M.D., Physician to the Farringdon General Dispensary, and to the Paddington Free Dispensary for the Diseases of Women and Children.

[*Read before the Westminster Medical Society, March* 9, 1850.]

Why should the prognosis of Uterine Disease be more difficult than that of other organs? Why should very slight Uterine lesions be sometimes accompanied by intense reaction? Why should it ever happen that patients, when cured of these lesions, still continue to suffer as much as they did before treatment? It seems to me, that speculists have chiefly to guard against the too narrow circumscription of their field of investigation; for by this means they likewise circumscribe their comprehension of the disease, which they ought to study in all its numerous bearings. The French pathologists are not free from this reproach; and in proof of this assertion, the very interesting discussion on Uterine Disease, now proceeding in the French Academy of Medicine, may be referred to; a discussion in which many of those who have taken part will, in future, be considered illustrious among the founders of uterine pathology. Most of those who have spoken in that discussion, seem to look upon the Womb as an unconnected organ, to which alone is confided the whole task of generation; and, losing sight of its intimate relation with the other organs which form the reproductive system, they are often at a loss to explain the phenomena of its diseases, and are, therefore, in their opinions, completely at variance with each other. In the hope of suggesting an answer to the questions proposed, I offer the following remarks on the connexion between Uterine and Ovarian Inflammation.

The Ovaries are connected with the Uterus anatomically, physiologically, and pathologically. Without alluding to many amongst the inferior animals, wherein the Womb and Ovaria are always anatomically connected, and merely mentioning, that, according to Müller and Rosenhaller, they are likewise anatomically connected in woman during the first months of fœtal life, I shall remark, that whenever the system of reproduction is called into full activity, the fimbriated extremities of the Fallopian tubes clasp the Ovaries as if instinctively, and the generative intestine becomes, for the time being, an apparatus which is one and undivided, each organ being linked with the other to subserve the common end for which they are physiologically associated. The Uterus is, therefore, an intermediate organ, receiving its stimulus from the external

organs of generation, which call on it to act, and also from the central organs of generation, the Ovaries, from which it receives its power of action, together with the ovum on which it is to react.

If we turn our view from the healthy to the morbid conditions of the reproductive system, we shall find, that just as the Ovaries and Uterus exert a *physiological* influence on each other, so they are capable of mutually imparting and receiving a *morbid* stimulus. This subject I propose to consider under the following heads:—I. The transmission of inflammation from the Uterus to the Ovaries: and II. From the Ovaries to the Uterus.

I. Is Inflammation transmitted from the Uterus to the Ovaries? That inflammation may be transmitted from the Womb to the Ovaries, is admitted by all pathologists. They were first struck by the frequency of this occurrence in the puerperal state; and further investigation has convinced them, that at all times this transmission of inflammation is not uncommon. In proof of this, I may refer to an example of extensive ulceration of the neck of the Womb, which Madame Boivin has depicted in her Atlas, and with which an inflammation of the right Ovary was co-existent. Dr. Henry Bennet also assures us, that inflammation of the uterine appendages may be reckoned among the natural terminations of metritis. Dr. Doherty also states, that he has met with chronic ovaritis supervening in the course of malignant diseases of the Womb. But it is principally in that peculiar form of catarrhal inflammation of the cavity of the neck, where no ulceration can be detected, and where a diminished uterine orifice is closed by thickened mucus, that the transmission of inflammation to the Ovaries is most frequently observed. This is a very tedious form of Uterine Disease; and, after it has lasted some time, an additional source of suffering may arise; a deep-seated pain is felt in the ovarian region of one or both sides, and this may be followed by a distinctly perceptible swelling. Dr. Melier was the first to draw particular attention to this succession of morbid phenomena (*Mémoires de l'Académie Royale de Médicine*, vol. II). In a case which he attended with Dr. Roche, the patient had, for a year, been affected with catarrhal inflammation of the neck of the Uterus, accompanied by pain behind the pubis, when she began to experience a totally different kind of suffering in the iliac regions: and an ovarian swelling could be distinctly felt on the right side. Whenever the pain in the cervix was exasperated, the ovarian tumour became more painful; and on attempting to dilate the uterine orifice, Dr. Melier likewise increased the pain of the tumour. Dr. Melier has seen several cases of this description; and it has also fallen to my lot to witness some, in which so great a community of feeling existed between the two organs, that any increased inflammation of the Womb produced increased inflammation of the Ovary; and by subduing the uterine irritation, the ovarian was abated.

Ovaritis is then often a secondary effect of metritis. Sometimes, however, the two diseases co-exist; and then ovaritis is masked by the symptoms of metritis. Gendrin explains the simultaneous inflammatory seizure of the Womb and the broad ligaments, by the fact of the Womb, the Ovaries, and broad ligaments, obtaining their vessels and nerves from a common source. He might have added the common

sympathies, by which they are united for the same purpose. If idiopathic inflammation of the Womb can produce subacute ovaritis, it is evident that the same result may follow the use of those active agents, by which we seek to substitute a healthy inflammatory action for the morbid state of a tissue. M. Gendrin, whose name carries weight in such matters, states, that he has seen many cases of ovaritis, uterine engorgement, and metro-peritonitis, caused by deep cauterization, and, in some instances, even by the use of the nitrate of silver to the neck of the Womb, or by styptic injections into its cavity. But we have not only to fear the propagation of inflammation from the idiosyncrasy of the patient, or from the injudicious use of active escharotics, but likewise from the employment of various mechanical means which have been lately invented, and are now so much in vogue. I believe that the ordinary pessaries effect no good purpose, while they give rise to great irritation; and, with regard to the stem-pessary, I have seen it entail so much Uterine and Ovarian irritation, that (without denying the good results which may have followed its use in other hands), I do not intend to employ it again. When it is remembered, that many of the uterine deviations and flections, for which it is recommended, are congenital, and therefore cannot be permanently redressed; and that many of these deviations are as painless as they are frequent, whilst, in some patients, it has produced a fatal termination, I trust that I shall not be blamed for expressing so strong an opinion.[1] Further illustrations might be given from the works of Ricord, Mercier, and others; but I will now proceed to consider the second division of this paper.

II. Is Inflammation transmitted from the Ovaries to the Womb? We know that the Ovaries, in virtue of their governing influence over the Uterus, induce periodically a state of vascular turgescence in the walls of this organ; and it is not surprising to find that Ovaritis does induce frequently the exaggeration of this physiological state, or the inflammation of the inner surface of the Womb and of its neck, accompanied by the secretion of false membranes. But should this peculiar form of ovarian irritation last for some length of time, the texture of the Womb itself becomes altered. The posterior wall is at first felt to be soft, compressible, and painful to the touch; and, after repeated engorgements, the tissue becomes harder and more solid, very much like the tissue of an *erectile* tumour, or that of a fibrous growth. Thus enlarged, the Womb becomes liable to retroversion; and sometimes, even when it is thus displaced, it excites inflammation in the neighbouring peritonæum. False membranes are formed, which fix the Womb, and an irreducible retroversion may be the ultimate result. These statements have been made both by Dr. Oldham and Dr. Rigby; and as, on many other points of uterine pathology, these gentlemen are at variance, their agreement, in this instance, even if their observations had not been confirmed by others, goes far to prove their correctness.

The liability of the neck of the Womb to disease, under the influence

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[1] I have more fully directed the attention of the profession to this and other points treated of in this memoir, in a work on *Diseases of Menstruation and Ovarian Inflammation*, now in the press.

of ovarian irritation, will be better understood, if we consider its anatomical structure. The neck of the Uterus is said to be constituted of muscular fibres, cellular tissue, and an external and an internal mucous membrane; but there is another and very important element of its structure, which has been overlooked even in our best and most recent works on the subject,—I mean the *erectile tissue*, which also enters into its composition. Dr. Eugène Forget has lately asserted that the erectile tissue (a continuation of that which lines the vagina), exists in the normal cervix; and that, as it forms a covering for the extremity of the penis, so it covers the surgical extremity of the neck of the womb.[1] It is evident, that the various stimuli to which this organ is liable, will exaggerate the condition of the normal structure which I have described, and thus give rise to those swellings, which are by some called inflammation, by others, engorgement; and which have been long since termed *erectile* tumours of the cervix uteri, by Professor Recamier. The correctness of this denomination will be evident, when we consider that these swellings are at first, and often for a long time, of an indolent, spongy, vascular nature, and only inflame when, from the increased effect of irritating causes, their epithelial surface becomes abraded. The immediate therapeutical bearings of the erectile tissue, as one of the elements of the neck of the Uterus, are important.

In proof of the influence of ovarian inflammation in production of these erectile tumours in the neck of the uterus, I quote the following case, lately published by Professor Recamier.[2]

Case. *Inflammatory Swelling of the Ovary, with an Erectile Engorgement of the Neck of the Womb.* I was consulted by Madame R., of Troyes, who, for the last eight years, had suffered considerably from ovarian irritation, attended by much pain in the right iliac fossa; sexual intercourse also produced intense suffering. Such had been the general state of the patient's health, though it varied for better or for worse. On examination, I found to the right, a little above the Uterus, an inflammatory tumefaction of the right Ovary, about the size of a hen's egg, which was very painful, even when gently touched. This tumour was distinctly felt by the *double touch*, the left hand pressing on the hypogastric region. There was also considerable erectile swelling of the anterior lip of the os-uteri. The patient had little fever; I applied leeches to the right inguinal region, and ordered poultices, baths, etc. When the ovarian tumefaction was diminished, as there still remained some engorgement of the neck, it was cauterized three or four times, at four days interval. After seven weeks' treatment, the patient returned home perfectly cured.

The following case, similar in many respects, although varying in its results, will be found in Duparque's classic work on Diseases of the Womb.

Case. Menstruation became scanty, and disappeared in a woman

[1] In the course of the discussion on this paper, Dr. Snow Beck denied the presence of any erectile tissue in the neck of the womb; and his intimate acquaintance with the structure of this organ gives weight to his assertion. I have, however, consulted our great microscopical authority, Mr. Quekett, who admits the existence of a layer of erectile tissue covering the neck of the Uterus. He says that it is of similar structure to that of the penis, and to that which lines the vagina.

[2] Gazette des Hôpitaux, Feb. 1850.

aged 25; she suffered from severe pain in the loins and in the left ovarian region. On examining her, I detected a very slight engorgement of the left angle and posterior lip of the Uterus; but I found a manifest tumour about the size of a small egg, in the left ovarian region. The tumour was painful, and I thought it ovarian. Venesection, and the application of leeches to the neck of the Womb, brought about a diminution of the uterine engorgement in the space of two months; but the ovarian tumour still remained the same. As the patient was too weak to bear any further loss of blood, I gave calomel, and ordered mercurial frictions to the inguinal regions; and in two months more, she had quite recovered from both affections.

The following case strengthens, still more forcibly, the position which I defend. It was observed by Dr. Letalnet, and communicated by him to Dr. Brierre de Boismont; they both believed that the Ovaries were primarily inflamed, and that inflammation was thence transmitted to the Uterus. It is to be regretted, however, that the state of the Ovaries was not minutely investigated.

Case. *Acute Ovaritis; Metritis; Inflammation of the Oviducts, and Peritonitis.* Madlle. A., aged 21, of a lymphatic temperament, menstruated for the first time, and without pain, at 13 years of age. At seventeen, she was affected with chlorosis; and the diminution of the menstrual discharge, which then took place, was accompanied with epistaxis. When in her eighteenth year, she felt, for the first time, a pain in the right ovarian region, which augmented at each menstrual epoch; and when the lady was under the influence of cold, hysterico-epileptic fits constantly attended the menstrual flow, which, however, remained regular as to the periods. She became afflicted with leucorrhœa, and also with a fissure of the anus, for which an operation was performed. At the menstrual period which immediately followed this operation, she suffered considerably, and the dysmenorrhœal symptoms became more and more considerable. The menstrual discharge, instead of being red, was now brown, then black, and at last ceased altogether to flow. When Dr. Letalnet first saw the patient, the hypogastric region was painful, the uterus was increased in size, heavy, and painful on being touched through the rectum. This uterine congestion was accompanied at all times by pains in the loins, particularly whenever the menstrual discharge began to flow. The patient's breath was fetid, her respiration rapid, she would lose her senses during an hour or two, and afterwards remain in a lethargic state for thirty-six hours. Notwithstanding the anæmic state of this young lady, bleeding (says Dr. Letalnet) was her only relief. The flow of blood was immediately followed by a decided improvement; and when the menstrual discharge appeared of its own accord, or was solicited by remedial means, the patient was sure to be well in two or three days. It was proved, not once only, but often, that venesection, or leeches to the hypogastric region, brought on the catamenia and epistaxis in this highly anæmic patient, and put an end to the hysterical fits.

Dr. Rigby affirms that he has never seen Ovarian Irritation to exist without some derangement of the Uterus; and Dr. Murphy informs us, that in many cases of dysmenorrhœa, he failed in relieving the patients while he addressed the whole of the treatment to the uterine elements

of the case (stricture or ulceration of the os uteri); and that it was only after more minute attention, and on finding that, in those cases, painful menstruation depended on subacute ovaritis, that he was able to cure it, by directing appropriate remedies to the organs previously affected. have seen similar cases; but knowing how easy it is to distort facts by looking at them through the fascinating prism of one's own peculiar views, I am gratified by having the sanction of high authority, when I advance even one case in support of an opinion which is not generally admitted.

Case. A married woman, aged 25, was admitted as a patient at the Paddington Free Dispensary for Women and Children. She was small in stature, of a sanguine constitution, and she had been married three years without issue. She complained of pains in the abdomen, of a slight discharge, and of dysmenorrhœa, attended by a profuse or a scanty flow. On examination, a little pain was caused by pressing the ovarian regions; the neck of the Womb was sound. Considering that the general health of the patient was in fault, I gave opening medicine and tonics, and ordered frequent injections with a solution of alum. This treatment was continued several weeks, the general health improved, and the discharge almost disappeared; but the pains in the ovarian regions became worse, and the dysmenorrhœa increased. I then ordered injections, mercurial ointment, and poultices to the inguinal regions, and the pain abated; but a fortnight afterwards, leucorrhœa reappeared, with pain in the back, and, on a second examination, I found slight ulceration of the cervix, which was red and swollen. Considering it therefore to be an ordinary case of ulceration of the neck, I cauterised it with nitrate of silver, then with the acid nitrate of mercury, and lastly with potassa fusa. Such was the treatment employed during the space of eight months, the patient being sometimes better, at other times worse, and sometimes remaining without treatment for two or three weeks. The ovarian pains likewise varied; but, three months ago, finding that they were very intense, and that they were augmented by walking or by pressure, and being tired by the pertinacity of the case, I made an exploration *per rectum*, and found the ovaries swollen, and very painful on being touched. I then ordered ten leeches to each inguinal region, and the regular rotation of blisters and mercurial ointment, besides cold enemata twice a day. The pains subsided, leucorrhœa ceased, and, a few weeks after, the neck of the womb was merely congested, but offered no ulceration. After the following menstrual period, I ordered a repetition of leeches, blisters, and ointment; and now the cervix is sound, the ovaries painless, and the patient well.

In this case, I think that Ovaritis produced the inflammation of the neck of the Womb, and kept it up until the primary disease was energetically treated. Now it seems to me, that if my explanation holds good, it may throw some light on Uterine Pathology. It is admitted, by all those who have contributed to our knowledge in this department, that one of the characteristic features of Diseases of the Womb, is their exasperating uncertainty. In some of those who suffer extremely, we find but very insignificant lesions; and when we have removed these, the patient sometimes suffers as much as before. Now we may believe that, in some patients, these symptoms are but a morbid reminiscence

in the nerves of the convalescent organ; and that a healthy excitement of the whole system is all that is wanted to relieve these particular nerves from their undue action, and to merge their own morbidly independent feelings into the general fund of excitement. But in many other cases of Uterine Disease, as in those observed by Dr. Murphy, or in that which I have related, we cannot cure the disease of the Womb, because we forget that beyond the Womb, preceding it in the development of the organs of reproduction, and governing them through life, are the Ovaries, which often participate in, and cause that uterine inflammation which we alone attack; and thus, while we temporarily seem to cure the small visible lesion, a hidden one remains to bring on relapses, and to perpetuate the patient's sufferings. In the treatment of those painful states of the neck of the bladder, so often caused by diseases of the kidneys, we depend much less on direct applications to the neck of the bladder, than on those means by which we can attack the kidney—the diseased organ. Should we not be governed by the same logic in treating diseases of the organs of reproduction?

Some may say, that I exaggerate the influence of the ovarian organs. It may also be averred that, by the treatment employed, I have only acted on the Womb, and that I have no *post-mortem* examination to offer in confirmation of my views. This may be true; but if an incontestable proof be required, that Ovarian Disease often exists unnoticed, and is erroneously referred to the Womb, I would refer to the last number of *Guy's Hospital Reports*, wherein Dr. Oldham relates a most melancholy case in point, and gives the particulars of a detailed *post-mortem* examination. Such a case is interesting in a scientific point of view, as representing similar cases not yet published, but which are talked of! And if this mistaking of Ovarian for Uterine inflammation can be made by men of eminence, may it not occur more frequently to the less distinguished?

42, Gloucester Road, Hyde Park, March 1850.

CASES OF PERFORATION AND OTHER LESIONS OF THE STOMACH, OCCURRING IN CONNEXION WITH DIABETES;

WITH REMARKS ON THE GASTRIC ORIGIN OF THAT DISEASE.

By WILLIAM MACINTYRE, M.D., Physician to the Western General Dispensary, Lisson Grove.

(Read at the Royal Medical and Chirurgical Society, March 27, 1849.)

"Les maladies impriment à nos organes des altérations tout-à-fait identiques à celles que certains agens physiques et chimiques peuvent déterminer. Il n'est donc pas étonnant qu'il existe des altérations organiques entièrement semblables à celles que produit sur nos tissus l'action d'un acide, et peut-être un commencement d'altération cadavérique. D'où la difficulté, dans quelques cas, de distinguer les altérations physiques ou chimiques des altérations vitales." CRUVEILHIER, *Anat. Patholog.—Maladies de l'Estomac.*

THE researches of the anatomist have thrown less light on the nature of Diabetes Mellitus, than might have been expected, considering the very marked characters of that disease, the singularity of its pathogno-

monic symptoms, and the opportunities for pathological investigation afforded by its extreme fatality. The lesions which have been found in fatal cases are common to other maladies; and, in their relation to Diabetes, may as justly be regarded in the light of secondary or accidental complications, as of original or essential elements. Hence, though, in individual instances, they may serve to account for certain symptoms, they are too inconstant and diversified to be taken as exponents of the specialities of this remarkable affection.

The information obtained from morbid anatomy proving so little satisfactory, it is not surprising that a theory of Diabetes, founded solely on a consideration of the phenomena observed during life, should have received very general assent; and that mere functional derangement, in which the assimilative processes are impaired or perverted, should have been deemed sufficient to account for the most notable of its symptoms.

This doctrine of mal-assimilation, found faintly traced in the writings of the ancients, was first clearly enunciated by Willis; but though embraced by several succeeding pathologists, among whom were Sydenham, Cullen, Dobson, Home, and Cullen, it is in comparatively recent times that it has received its full development, more particularly at the hands of Dr. Prout. In conformity with the whole theory of assimilation, so lucidly propounded by this writer, Diabetes may consist in an error of the primary assimilative processes, of the secondary, or of both; or in some unknown perversion of the proper functions of the kidneys, which permits newly formed sugar, whether derived from the aliments under erroneously exerted primary assimilation, or from the destruction of the gelatinous and other tissues, to pass off with the renal secretion unchanged.[1]

In support of these conclusions, may now be adduced the fact of sugar having, in several cases, been discovered not only in other secretions besides the urine, but also in the circulating system, in the intestinal canal, and, in one instance at least, in the stomach of a diabetic subject, who had been fed on a diet exclusively animal. This detection of the sugar, *en route*, as it were, to the kidneys, was, undoubtedly, an important step in the investigation, obviously leading us to look for the source of the unnatural product, rather in a vice of those processes of the animal economy which are engaged in elaborating, from alimentary materials, the proximate principles of the body, than in any fault of the emunctories through which it is cast out of the system.

These views, however, even if we admit them to be as true as they

[1] *On the Nature and Treatment of Stomach and Urinary Diseases*, p. 37. 1840. It is curious to observe how closely the language employed by Willis, nearly two hundred years ago, approaches, in some points, that in use with the iatro-chemical philosophers of the present day, when applying the doctrine of primary assimilation, and the ultimate metamorphosis and waste of tissues, to the explication of diseased processes. "Hunc effectum (miram dulcedinem sc. urinæ) ex eo quispiam oriri putaret, quòd unà cum sanguinis sero per renes excurrente, tum liquor recens nutritius, tum solidarum partium liquamina amandarentur; quâ re non improbabile videtur, dulcedinem istam ex succis hisce opimis, lotio permixtis, conciliari." (*Pharmaceutica Rationis*, sec. iv, cap. 5.) Willis goes on to explain, according to the chemistry then in vogue, the subsequent conversion, under the play of chemical affinities, of these bland and tasteless mingled juices, during their passage through the circulation, into the material which imparts to the urine in Diabetes its sweet and somewhat pungent qualities.

are ingenious, fall short of removing the whole of the difficulties with which the subject is beset. We have yet to learn what the precise condition of the digestive and assimilative organs is, which is capable of thus diverting them from the performance of their natural office, to play so strange and fatal a part in pathology. If we appeal to the morbid manifestations present during life, we find many of them, it is true, unequivocally denoting a great amount of gastric derangement, but neither singly nor collectively are they expressive of a special morbid action. The evidence from recorded dissections is equally inconclusive, and not a little conflicting. Like the kidneys, the stomach and its associated viscera have been met with as frequently sound as diseased. Rutherford and Baillie found the stomach always healthy in structure; Cullen and Home, generally so. In the second and third cases of three examples of the disease, detailed by Dr. Bright in his *Medical Reports*, the stomach and intestines presented either very little or no sign of disease; and in two post-mortem examinations by my friends, Dr. Roxburgh and Dr. Hare, at which I was present, these organs exhibited no very material deviation from the healthy state. On the other hand, in some of the recorded cases, indubitable proofs were found after death that the stomach had been the seat of an antecedent disease, more or less active. In one of Dr. Bright's cases, this viscus was small; while in the case related by Dupuytren and Thénard, in their very interesting *Mémoire*, it is said to have been greatly enlarged (*extrêmement volumineux, cinque à six pintes de capacité*), with unusual vascularity of its internal surface, and some degree of redness and thickening of the duodenum, the commencement of the jejunum, and the cœcum.[1] In a case examined by Dr. J. L. Bardsley, the organ was inflamed on its posterior surface, near the cardia, the inflammation being confined to the inner membrane, which was also slightly corroded by the gastric juice. One of the kidneys, in this case, was much reduced in bulk, weighing only ten drachms, but in other respects it was healthy. The same writer refers to another fatal example, in which the only lesion that could be discovered was a remarkably hypertrophied state of the duodenum.[2] In four cases examined by Berndt, the kidneys were free from disease; in two of them, the stomach was immensely enlarged,—a natural consequence it was thought, of the enormous quantity of food and drink swallowed.[3]

As far, therefore, as the testimony hitherto furnished by pathological anatomy avails, we find ourselves either forced to give up the doctrine of the gastric origin of Diabetes as untenable in the great majority of cases, or to suppose that a function, essential to the maintenance of life, may become fatally deranged without the occurrence of coincident lesions of organization. There is, however, one source of information which does not appear to have been sufficiently interrogated: I allude to the 'gastric fluid,' which, as the primary agent employed in converting alimentary matters into the proper pabulum for assimilation, may not unreasonably be supposed, in a disease like Diabetes, to have suffered

[1] Mem. sur le Diabète Sucré. Journ. de Méd. Août. 1806.
[2] Cyclopædia of Practical Medicine. *Diabetes.*
[3] British and Foreign Medical Review, vol. ii, p. 180.

important changes in composition and properties analogous to those observed in other secretions, when the organs which supply them are structurally or functionally deranged. This notion is not new; it was entertained by Rollo, whom we find explicitly referring Diabetes to an increased morbid action of the stomach, with too great a secretion, and *an alteration of the gastric fluid*, forming or evolving from vegetable substances, saccharine matter, which is quickly separated, and passes off, as a foreign ingredient, by the kidneys.

Rollo seems to have been led to his conclusions solely by the character of the general symptoms, and the effect of the particular dietetic treatment which he so strenuously advocated. It still remains a point undetermined, experimentally, whether the digestive fluid in Diabetes is altered in its constitution or not; for chemistry, in its exploration of the *primæ viæ* in this disease, has, as yet, limited itself to a search after sugar among their contents; and anatomy, as we have seen, has contributed little to solve the question. In this dearth of facts bearing on the subject, it was not without some interest that, in three fatal cases of the complaint which have fallen under my own immediate observation, I met with appearances in the stomach strongly significant of that organ having been, at some period, subjected to the action of an energetic and destructive agent. The detail of these cases I now submit for consideration, as favouring that theory of the disease which seems to accord best with the rise, character, and succession of its symptoms, while it is, in the main, consistent with approved physiology.

Case I. J. W., a married man, of short stature and dark complexion, consulted me on the 16th of March, 1841, for Diabetes. He gave the following account of his illness. Five years before the above date, he passed through a violent and protracted fever, which had nearly carried him off. After recovering from the fever, his appetite became keen, and he indulged it freely. He soon got very stout, weighing fourteen stone, but did not regain strength in proportion. About fifteen months ago, he began to be tortured with urgent thirst, which the most copious draughts of liquids of every description, often to the extent of ten or twelve quarts a day, could not quench. About the same time, he noticed that he made water frequently, and in large quantities; but it was not till within the last twelve months that the real nature of his complaint was determined by a proper examination of his urine. When he applied to me, he was passing twelve pints daily; it was of a pale colour, of specific gravity 1038, very sweet, and of honey odour. It was slightly acid, free from albumen, and apparently abounding with urea; some of it, concentrated in a watch glass, and treated with nitric acid, yielded nitrate of urea largely, though no preliminary process had been employed to destroy the sugar. A pint gave, on boiling, one ounce and six drachms of syrupy extract; and four ounces, allowed to evaporate slowly, left a considerable residuum of saccharine matter in a granular form.

All the symptoms which mark an advanced stage of Diabetes were now present; such as dry skin, red and glazed tongue, urgent thirst, voracious appetite, emaciation, depression of spirits, and extreme prostration of strength. There was also a teazing cough, with flatulence and irregularity of the bowels, which were sometimes constipated, but generally relaxed.

The patient had, for some time, observed a regulated diet, restricting himself to two eggs and bread and butter for breakfast, half a pound of beef-steak and rice for dinner, and the same quantity of meat, or two eggs, for supper. He was not, however, able to put equal limitation to his drinking, for he found thirst far more uncontrolable than hunger; but he now managed to do with six pints of liquid, instead of twice that number of quarts, in twenty-four hours. His usual beverage was small beer, and, at one time, he was a "tea-totaller"; but before his first illness, he was in the habit of indulging to excess in the use of spirits and malt liquors.

He was recommended to continue the diet at present in use. Dover's powder was prescribed to be taken at bed-time, and castor oil every morning, as, from a tumid state of the abdomen, fæcal accumulation was suspected; and such proved to be the case, for during several days in succession, he passed enormous quantities of solid fæces of a dark colour. Between the 16th and 25th, he also took three doses of calomel, always feeling stronger and more lively after the bowels were unloaded.

On the advice of Dr. Watson, he was now ordered to take a drop of creasote thrice a day, and to continue the Dover's powder.

Under this treatment the urine fell to nine pints, and, on the 4th of April, its specific gravity was down to 1032. There was, however, no corresponding improvement of the patient's general health; and, as he was suffering from a catarrh or influenza, prevailing at the time, the creasote was discontinued, and a cretaceous mixture prescribed to restrain a troublesome diarrhœa. Shortly afterwards, he removed into the suburbs of town, and I heard nothing of him till called to see him on the 18th, in consequence of his labouring under constipation. The abdomen was then tumid and hard, but free from pain, and there was not the slightest febrile movement. All the usual means for overcoming obstruction were resorted to, but ineffectually; he sank rapidly, and died next day. The urine had continued at about nine pints daily, the appetite had fallen off, but the thirst had abated nothing of its intensity. The patient, who was a very intelligent man, retained his mental faculties entire to the last.

Inspection. The body, which was examined by Mr. Anderson, was extremely emaciated, and a quantity of dark brown fluid was seen flowing from the mouth.

On opening the thorax, the presenting lungs appeared healthy, but, on section, were found to be gorged with blood posteriorly. The left upper lobe was broken down in the centre into a softened purulent mass, more like the disorganization of unhealthy inflammation, than a tubercular vomica; and neither around this space, nor in any other part of the organ, could tubercles be detected. The pericardium was healthy; the heart collapsed and flabby; its walls attenuated, those of the left ventricle to a marked degree, scarcely equalling the right in substance. The endocardium was pale, and the little blood which the organ contained was uncoagulated and thin.

The small intestines, the ascending colon, and its arch, were prodigiously distended with air; the descending colon, the sigmoid flexure and rectum, were crammed with solid fæces. There were no marks of inflammation visible throughout the whole track of the intestinal tube, but, on the contrary, an unusual bloodlessness.

The stomach was greatly dilated, and its walls very thin; its cardiac extremity presented a dark appearance under the peritoneal tunic, and its lining membrane was soft, but free from ulceration or erosion. The blood-vessels of the viscus were unusually large and turgid. The spleen and pancreas were healthy; the liver was wanting in firmness, but presented no other alteration from its natural appearance. The kidneys were much enlarged, of double the ordinary weight, and some what lobulated. The bladder was natural; the vesiculæ seminales turgid.

Mr. Dalrymple made an examination of both kidneys. The right freely received an injection of coloured wax; the left, on section, appeared healthy, and, under the microscope, displayed the natural structure. He remarked that the blood in the veins had a bright brick-dust tint. A similar remark had been made by Mr. Anderson, at the dissection, respecting the blood in the vessels of the mesentery.

Case II. This case I saw, with Dr. Cumming, on the 4th of March, 1843. The patient, aged 38, steward in a club-house, had been under treatment, for a fortnight, for an extensive aphthous affection of the mouth, tongue, and fauces, accompanied with much constitutional disturbance, great debility, depression of spirits, and emaciation. Under the use of the ordinary general and local remedies, the incrustations fell off, leaving the mucous surface stripped of its epithelial covering. The constitutional symptoms became aggravated, with the addition of tenderness in the epigastrium, and irritability of the stomach, causing the rejection of even the blandest liquids, as soon as they were swallowed. The supervention of these gastric symptoms led to the belief of an extension of the throat affection to the stomach, resulting in *diptherite*, of which the condition of the mouth, in general, was supposed to be the harbinger. At my visit, the vomiting was going on, with prostration of all bodily power, cold surface, feeble pulse, anxiety, and craving for cold drinks. The tongue, the inside of the mouth, and the fauces were red and glazed.

The patient, we were told, had been getting thin for some months, but had wasted rapidly during the last fortnight. The bowels had been kept regular by mild aperients. The urinary excretion was reported to be natural; but, on inspecting the chamber utensil, it was found nearly full of limpid urine, which had been voided in the course of the afternoon. On further inquiry it was ascertained, that he had been in the habit of passing still larger quantities, which he attributed to the use of sweet spirits of nitre. As the presence of albumen in the urine was not manifested by heat, we inferred, from the correspondence of the general symptoms with the profuse diuresis, that the disease was Diabetes. The treatment was directed solely in reference to the gastric symptoms, but none of the measures resorted to availed in alleviating these, or in averting the fatal issue, which took place two days after this visit. The urine was, in the meantime, subjected to the usual examination, and found to be sweet, of specific gravity 1038, to yield a syrupy extract on evaporation, and to ferment briskly with yeast.

Inspection, forty-eight hours after death. The body was much emaciated. It was free from obvious cadaveric decomposition, but exhaled the peculiar odour generally perceptible in cases of Diabetes, and which

had, in this instance, been observed in the patient's breath. The contents of the chest were healthy. The small intestines were distended with air, and of an erythematous hue, but free from effusion or agglutination. The stomach was observed to be remarkably large and flabby, and, on being raised for further examination, it gave way posteriorly at its large curvature, allowing the escape of a dark grumous fluid into the cavity of the abdomen. Its walls around the rent thus made were soft, and, throughout the entire splenic division, reduced to extreme tenuity, being, in some places, almost diaphanous. The appearance of softening and thinning lessened towards the pylorus, but could be traced faintly some way into the duodenum, where it was lost. On the internal surface of the stomach, several red patches were seen, some of them verging to black, others covered with a dark grumous exudation. The liver was hard, and of a dark colour. The left kidney, much larger than natural, was congested; its exterior was rough and firmly adherent, in places, to the investing membrane; its pelvis contained a purulent fluid. The right kidney presented, in a less degree, the same appearances.

Case III. The subject of this case was a little girl, five years old. She was brought to town for medical advice on the 25th of February, 1845, when I saw her for the first time. She then made no complaint of pain, but betrayed signs of much languor and debility. She was a good deal reduced in flesh; her eyes were dull, with drooping of their upper lids; she sighed often, and exhibited an expression of unwonted sadness. Both cheeks were flushed, but quite cool, and the temperature of the surface generally was under the natural standard. The breathing was short, and attended with the abnormal play of the alæ nasi usual in dyspnœa, but the patient was able to make a full inspiration when desired. There was no cough, and the chest was resonant throughout. The tongue was furred, the gums red, and the breath rather offensive; the abdomen was tumid, but not tender on pressure.

I learnt from the child's father, who had been educated for the medical profession, that she had been five weeks under treatment, in the country, for what was considered to be remittent fever; but that the case was not well defined, and had resisted the ordinary remedies, among which mercury, in the form of grey powder, was freely used. He further stated, that ten days before she left home, attention was drawn to her passing urine frequently and in large quantities, amounting sometimes to several pints in the day; it was reported to contain neither albumen nor sugar.

On this visit, I merely prescribed an aperient of rhubarb with a few grains of mercury and chalk, until an examination of the urine should be made. That examination, instituted the same evening, cleared away the obscurity which had hitherto veiled the case, by furnishing abundant proofs of the existence of Diabetes Mellitus. The urine voided during the day, on being boiled with liquor potassæ, exhibited the rich claret colour which results from the combined action of heat and caustic alkali on grape and Diabetic sugars. Further evidence of the presence of saccharine matter was supplied by Trommer's test; and in a short time, the actual sugar was obtained by evaporation, in the form of a syrupy extract, closely resembling honey in appearance and odour. The specimen

of urine operated on, was perfectly transparent, nearly colourless, of acid reaction, and high sp. gr. (1042). It contained no albumen.

Next day, March 1, the patient, after a restless night, was worse, evincing increased debility, languor and exhaustion, with constant sighing, and the most marked dejection of spirits, but without making any complaint of pain or uneasiness. The urine had been moderate in quantity during the night, but became profuse after she left her bed, and reached the high sp. gr. of 1045. Acting on the indications furnished by the characters of the urine, the plan of treatment was now modified. As the bowels had not acted recently, a dose of castor oil was given, the patient ordered to bed, and the acetate of ammonia, with compound tincture of camphor prescribed, to be taken at intervals, and a warm bath in the evening.

On the 2nd of March, at the morning visit, some improvement was observable. The patient had gone to sleep after the bath, passed a tranquil night, and was now cheerful and inclined to join in the amusements of the other children. No perspiration had followed the bath. The bowels had acted freely, discharging several flattened masses of clay-coloured fæces. The urine was as copious as before, but had fallen in density to 1035. This slight amendment, however, proved transient; towards evening the languor and exhaustion returned, and, though another tranquil night followed the bath, the prostration of strength was next day so great, that she did not wish to leave her bed.

On the 4th, matters were not improved. The thirst continued urgent, food was taken with avidity, but the strength continued to decline, and the eyes looked sunken, rolling listlessly in their sockets. During the night, she had had some sleep, but moaned frequently; and, for the first time, complained of pain in the left hypochondrium, where she occasionally kept her hand applied. Some tumidity from flatus was observable in this quarter, but no manifestation of pain was elicited by pressure.

On the 5th, it was agreed, in consultation with Dr. Ferguson, to give small doses of the tincture of muriated sesquichloride of iron and laudanum —five minims of the former, and two of the latter, every six hours.

The case, henceforward, rapidly pursued its fatal course. After the third dose of the medicine, a tendency to drowsiness appeared, on which account the opium was withheld; the appetite failed; and towards the close of the following day, the power of swallowing was lost. The patient continued to sink, and expired, exhausted, on the 7th. The condition of the urine was examined daily, and found not to vary much in quantity till the last two days, when it was reduced from its usual amount of four or five pints, in twenty-four hours, to two. Rather less than a quart of that passed on the 1st, having a density of 1045, yielded a thick extract, which had the appearance of honey, and in the course of a few days granulated into a fine saccharine mass of a pure white colour.

Inspection. In consequence of some difficulty in making arrangements for a post-mortem investigation, the body was not opened till seventy hours after death. The examination was made by Mr. Shaw and Mr. Forbes. There was considerable emaciation, but no sign of cadaveric decomposition. The head was large and well formed. The calvarium was easily detached from the dura mater, which was free from undue vascularity. The vessels of the pia mater contained bright blood.

There was a moderate effusion of serum between the convolutions. The medullary portion of the brain presented a darker colour than natural, with scattered red points. The substance of both the cerebrum and cerebellum was unusually firm and dry, and no serum was found in the ventricles; nor tubercles in any part of the organ or its envelopes. On opening the chest, the upper lobes of the lungs appeared healthy. On the right side, a few fibrinous filaments were seen connecting the pulmonary and costal pleuræ, but these membranes presented no other vestige of pre-existing inflammation. Both lungs yielded a hollow sound on percussion, floated in water, and were found perfectly free from tubercular deposit; but their tissue, near the margins, had a condensed fleshy character, resembling that of very young children, in whom the vesicular structure of these organs is not completely unfolded. The inferior lobe on the left side was dark-coloured, and somewhat congested. The colour of the left inferior lobe seemed to be owing partly to stasis, and partly to this portion of the lung being steeped in a dark sanguineous fluid, which, to the amount of several ounces, occupied the lower part of the pleural sac. When this fluid was removed, the cavity of the chest was seen to communicate directly with the stomach by one large, irregular hole in the walls of that viscus, and several smaller perforations in the diaphragm, which were of an oblong shape, and separated from one another by narrow strips of the muscle, still entire. The openings in both corresponded exactly, but no adhesion existed between the apposed surfaces around. The structures bordering on the perforations were black and thin; and the parietes of the stomach, throughout the whole of its large division, partook more or less of the attenuation, but the pyloric portion was of natural colour and consistence. In the lining membrane were seen several ecchymosed spots, but no signs of active inflammation. The organ was nearly empty, but it was ascertained that none of its contents had escaped into the abdominal cavity. The intestines were also nearly empty, with the exception of the rectum and lower part of the colon, which contained numerous dry scybala. The spleen was small, black, and readily lacerable; the liver and pancreas healthy; the mesentery free from tubercles or glandular disease. The fat surrounding the kidneys was remarkably dry and firm. These organs themselves were also dry externally, but of normal size, appearance, and structure. In the pelvis of the left kidney, a few drops of puriform fluid were found. The bladder was capacious, and half-filled with urine. The extravasated fluid taken out of the chest was free from smell; and, on microscopical examination, was found to contain blood-globules largely, epithelium, and textural detritus.

Remarks. I am sorry I cannot dwell with any satisfaction on the treatment of the foregoing cases. In all of them, the disease was fully developed when they came under observation; and in two of them, indeed, it had neared its close, not even admitting of palliation. The first case afforded a brief space for the trial of remedies; and creasote, the only article employed with a specific intent, exerted, as I have observed in other instances, a decided restraining effect on the evolution of saccharine matter; but no permanent advantage accrued, owing to serious complications in the lungs, kidneys, and other organs.

The structural changes found after death, however, claim more consideration; and may, I trust, justify some remarks on those points which appear to possess interest as mere facts, or seem to bear on the subject of the pathology of this singular disease.

The examinations in Cases I and II, were conducted with due care; but, as limits were put to their prosecution, they were necessarily incomplete, though in one particular, at least, important, as disclosing an unnatural condition of the stomach.

In the third case, the dissection supplied matter for more comprehensive details, all the great cavities having been minutely explored by a practised anatomist. On this account, I will address myself to that case in the first instance, though it is last in the order of narration; referring, in commenting upon its prominent features, to the analogous or identical appearances presented by the other two. The case is also, perhaps, entitled to a leading position from some special passages of practical importance in its history, as well as from its having been less complicated than most cases of the disease with concomitant structural changes, to which it is often difficult to allot a true place in the chapter of causation. This little patient, at her age, and under the circumstances of domestic comfort in which she was reared, could not have been exposed to the usually alleged causes of Diabetes; such as cold, intemperance, and excesses of an enervating character. Hence the case may fairly be regarded as a genuine type of the disease in its purest form, and, as such, enhancing the import, in an etiological respect, of the only remarkable lesions discovered after death.

The first circumstance in the history of the case claiming notice is, the tender age of the patient. Diuresis is not uncommon in children; but though the urine, under that condition, is changed from its natural constitution, the alteration usually consists in an excess of phosphates or urea; and though examples of the saccharine impregnation have now been seen in sufficient numbers to prove that Diabetes is not confined to any particular period of life, the proportion is small in which it has been shewn to have existed in a subject so young, to the amount it did in the present instance. This child's urine attained a density which I have not often met with in the adult. According to Dr. Henry's table, the patient, with her urine at a specific gravity of 1,040, and 1045, was passing daily, by one emunctory alone, no less than seven or eight ounces of solid matter; the principal part of which, under a healthy exercise of the natural functions, would have been appropriated to the purposes and requirements of the system.

The next point to be noticed in the history of the case is, the rapidity of its progress. Diabetes being, in its early stage, characterized by no specially distinctive symptom, we have always a difficulty in assigning a determinate date to its origin. In this case, however, I was assured that, till three months before I was consulted, the child was in high health and spirits, with the exception of a short interval of lowness in the month of August, on the death of her mother. To this event the friends, on inquiries being made as to exciting causes, ascribed the present illness; and, on being made acquainted with the singular nature of the disease, added, that the patient had been in the habit of indulging in the immoderate use of sugar, both as an article of diet and a

confectionary. The falling away from health did not attract serious attention, till about the middle of January. The symptoms then partook so much of the character of remittent fever, that they were treated by mercurials and the usual remedies indicated by hepatic and intestinal derangement, The mercury, failing to make any favourable impression on the complaint, had been discontinued for a week or ten days previous to her coming to town. It was before I had satisfied myself of the real nature of the complaint, that I prescribed the grey powder, and I could not help ascribing to its employment the increased prostration observed next day. The improvement which followed a change of treatment, gave a gleam of hope, which, however, was soon extinguished by the urine again increasing in density, with corresponding aggravation of all the symptoms.

Finally, the case affords an instructive illustration of the importance, in all obscure and intractable complaints, of availing ourselves of the diagnostic indications furnished by the urine, even when the existing symptoms have no direct or obvious reference to the urinary organs or their function. In such cases, it will not be enough to consult the sensible qualities alone of the excretion, which frequently give but vague and ambiguous information; the application of chemical reagents or tests, and, occasionally, analytical research, will be required to reveal the morbid alteration. In Diabetes, we now fortunately possess means of readily detecting sugar in the urine, even at an early stage of the disease, and when the amount of the foreign ingredient is too inconsiderable to give any intimation of its presence, by the colour, taste, or density of the fluid.

On entering upon the post-mortem examination of this case, the first circumstance which struck us was the dry condition of all the tissues of the body—integumental, membranous, and parenchymatous. Scarcely any blood followed the division of the scalp or the removal of that covering. The membranes of the brain were no less dry, and the central cavities of the organ did not contain a drop of fluid. The unusual firmness of the cerebral substance equally shewed the general deficiency of moisture. This condition was not so evident in the lungs; but it was the only deviation from the natural appearance of the kidneys that we could discover, the fat in which they were imbedded having the look and consistence of ordinary suet. Even the fæces were fashioned into hardened balls. There is, perhaps, no occasion to look for an explanation of this arid state of all the structures, beyond the profuse and incessant drain which had been going on by the kidneys. Search was made for tubercles, so commonly met with in protracted cases of Diabetes; but none could be found, nor any analogous deposit, either in the membranes or the parenchyma of the brain, lungs, liver, intestines, or mesentery. In the lungs, the only abnormal appearance of any note was the condition of the pulmonary texture, which I have likened to fœtal lungs, and which was probably the consequence of feeble and incomplete inspiration, rather than a result of positive disease.

We now come, in the course of the post-mortem examination, to consider a group of appearances and changes, which, in interest and significance, have yet higher and more direct claims on our attention:—I allude to the extreme attenuation of the coats of the stomach in all the

cases, and the perforations in the diaphragm and stomach in one of them; both conditions—the tenuity and loss of substance—allying them to each other, and marking, apparently, but different degrees of a kindred disorganization. In the first case, the stomach was much thinned, and its cardiac extremity presented a dark appearance, but without either abrasion or ulceration. In the second case, the walls of the organ, throughout the whole of its large division, were singularly attenuated, almost translucent, and tearing under the slightest force, the mucous membrane immediately adjoining the rent being black and softened. The condition here seemed to mark a much more advanced stage of a change similar to that which had been going on in the former case; if it did not amount to complete loss of substance, it had certainly reached the limits of textural consistence and continuity. In the third example, the same extensive attenuation was observed, and the wasting process seen consummated in perforation, actual and unequivocal; for, from the order in which the dissection was conducted, the perforations in the diaphragm and the breach in the stomach were brought into view before either of these parts was disturbed by handling or traction.

In considering the nature and import of these appearances, the first question to be solved is, whether they are to be regarded as pathological lesions—the work of disease during life, or cadaveric changes—the effects of a destructive process, set up and carried on in dead animal tissue.

As respects the actual perforations in the last case, I think we are constrained to consider them as post-mortem appearances. Their extent, irregular and ragged form, and the thin condition of their edges, distinguish them from the small, circular, and well-defined penetrating ulcer, with which we are so well acquainted, as the result of chronic inflammation and malignant disease. The non-existence of extravasation into the cavity of the peritonæum, the absence of all traces of inflammation of that membrane, or of adhesions between the stomach and diaphragm, and the exemption of the patient from the tortures which invariably announce perforation and consequent extravasation, are circumstances not less inconsistent with their having existed during life.

Under this view of their production, they might naturally be classed with those perforations or erosions which, from the time of John Hunter, have been attributed to the digestive or solvent action of the gastric juice subsequent to death. The facts which led that distinguished observer to this conclusion, occurred in cases of sudden death from violence, injuries of the head, and strangulation. He supposed, that under such circumstances, the stomach had been rendered incapable of resisting the digestive powers of the fluids generated within it, in consequence of its coats being suddenly deprived of their vitality at a time when the body was healthy, and the gastric secretion in full activity—that, in fact, to use the quaint phraseology of a French writer who adopts Hunter's views, in these cases "the stomach devours itself." This opinion would seem to be corroborated by experiments subsequently made on the lower animals, by Wilson Philip, Carswell, and others; but the subject is not without its difficulties, not the least of which is the rarity of the appearances in question, while the circumstances under which they were first noticed are common enough. Even as to their comparative frequency, there is a remarkable and unaccountable discrepancy among

competent and trustworthy observers. Hunter represents their occurrence as very common, few bodies, according to him, being examined without exhibiting more or less digestion of the stomach, and not unfrequently actual perforation, not only of its walls, but also of the contiguous diaphragm, allowing the contents of the stomach to pass into the cavity of the chest. On the other hand, we find Mr. Taylor, in his work on medical jurisprudence, stating, that during a period of fourteen years, there is the record of only one case of spontaneous Perforation of the Stomach being met with in the numerous inspections made at Guy's Hospital. His statement is borne out by the testimony of several of my professional friends, who have favoured me with the result of their large experience in the dead-house and dissecting room. To some of them, actual perforation has never presented itself; while those who have observed perforation have not met with it so frequently, considering their opportunities, as might have been expected, on the supposition that Hunter's representation is correct.

It was probably from considerations like those just stated, that Andral, Abercrombie, and others, hesitated to adopt Hunter's theory. The whole subject, however, has acquired additional interest and increased importance, from the fact that these perforations and the other structural changes under review have, since Hunter's time, been noticed in connexion with various diseases, some of them of a decidedly gastric nature, others not primarily referable to the stomach, but, in most cases, attended with gastric symptoms.

Softening and attenuation of the stomach would appear to be a frequent lesion in phthisis. In ninety-six cases in which that organ was carefully examined, Louis found it attenuated nineteen times, and in some of these so destitute of firmness as to give way under the slightest traction. He has several times seen the stomach perforated; but, from the absence of peritoneal inflammation, is of opinion that the perforations had not existed during life. The details of five or six cases are given in his work on Phthisis. In one of the most notable, which presented, on inspection after death, a rounded hole to the left of the cardia, there had been, from the outset of the illness, marked loss of strength, soon followed by œdema of the legs; variable appetite, at first impaired, subsequently keen, the patient constantly asking for food; red and dry tongue for a period of four months, with clamminess of the mouth and urgent thirst.

So far back as 1824, Dr. John Gairdner published an account of four cases of infantile disease occurring in his own practice, and two from Cruveilhier, in which softening, erosions, or Perforations of the Stomach were found after death.[1] In accounting for their production, he adopts the Hunterian theory,—so far, at least, as respects the perforations, which he does not consider to be morbid lesions, but post-mortem changes. The symptoms in these cases had been obscure, denoting only slight febrile disturbance; but the prominent features indicated intense irritation of the stomach and alimentary tube. Along with more or less vomiting and diarrhœa, there were signs of ardent thirst, generally avidity for food, and, in all the cases, early and excessive languor

[1] Transactions of the Medico-Chirurgical Society of Edinburgh, vol. i.

and debility. These characters cannot fail to remind us of the train of symptoms which accompanies Diabetes, but the state of the urinary secretion finds no place in the histories given. The same omission is observable in the details by Louis ; and, what is still more strange, this great historiographer of disease, and the earnest advocate for the necessity of our inquiring into the condition of every function, in order to guide us to a correct estimate of post-mortem appearances, rarely records the condition of the kidneys ; for in sixty-one cases illustrating phthisis under its various forms and complications, it will be seen that he notes the state of the urine in no more than five or six, and in these very cursorily.

Dr. Gairdner has also collected from other sources, and placed in a tabular form, several cases presenting appearances closely resembling those which fell under his own notice, and which he regards as having been primary affections of the alimentary canal. To these he has added a second series, presenting analogous appearances, but complicated with other lesions, and occurring in diseases not directly nor primarily referable to the stomach and bowels ; the most common being inflammation of the cerebral meninges, pneumonia, puerperal peritonitis, and convulsions ; and, next to them, tubercular disease of the lungs and other parts. Of the first group, the subjects were infants or young children, all but one being under two years of age ; of the second, or consecutive series, several were adults.

In which of these groups we are to place the cases which I have detailed, may admit of doubt. My own impression may be inferred from my having brought them forward in support of the gastric origin and nature of Diabetes. It is true, that the amount of facts is too small to warrant deductions of conclusive force ; but, in a rare disease, the coincidence, in three successive cases, of appearances so remarkable and nearly parallel, will hardly admit of being regarded as purely accidental ; while there are considerations which seem to connect such coincidence with a common cause as yet unknown.

Though it is difficult to withhold our assent from the conclusions of Hunter, under the particular circumstances which he mentions, his theory, as we have seen, is, in some respects, unsatisfactory, and evidently not applicable to cases like those just related and referred to. In many of these cases, one of the first conditions upon which the theory is based—the abundant presence of digestive fluids in the stomach—must have been wanting, seeing that, for a long period before death, food, the natural provocative to an out-pouring of the gastric juice, had either not been taken, or, if taken, had been rejected as soon as swallowed. Then, as to the lesions or changes in question, it may be observed, that they bear but a distant resemblance to those effected on animal matter when subjected to the action of the gastric fluid, either in the interior of the stomach during ordinary digestion, or out of its cavity in the hands of the experimenter. There is a striking difference between the brown, dark, grumous, and viscid liquids usually described as constituting the contents of the stomach under these perforations, and that light-coloured, pultaceous, and homogeneous substance, which we regard as chyme, the product of digestion ; while the charred and tattered appearance of the invaded structures of the organ, seems to represent rather the rough vestiges of a destructive escharotic,

than changes brought about by a slow physiological process, or a gentle chemical solvent. This difference, alone, would lead us to take a modified view of the theory of simple solution, and to regard the successive changes from softening to attenuation, and from attenuation to complete loss of substance, not as the work of the gastric juice in a normal and healthy condition, but as the effects of that fluid in an altered or vitiated state; or of other products secreted by, or generated in the stomach, and endowed with corrosive properties; in fine, that under certain diseased conditions of the system, a peculiar action is set up in the organ, and carried on to an extreme point during life, but not completed till after death, when the tissues, already enfeebled and wasted, and no longer defended by the vital forces, become the easy prey of some destructive agent. The sweat, the tears, the nasal and bronchial mucus, the bile, and the urine, are known to be capable of acquiring acrid and deleterious properties. That the gastric juice is susceptible of changes is not merely an inference deduced, long ago, from observations on dyspepsia, but a fact demonstrated by experiment. In the case of Alexis St. Martin, Dr. Beaumont found that errors in diet, febrile excitement, fright, and other mental emotions, caused a material alteration in the appearance of the digestive fluid, modified its action, and sometimes entirely checked its secretion. That other fluids of an injurious nature will, under certain states of disease, both general and local, be secreted by the stomach, or evolved in its interior, is equally a matter of observation. In Diabetes, the sugar abounding in the *primæ viæ* will at once suggest a fertile source of products of most active qualities. Those with which we are best acquainted are the lactic and oxalic acids, both of them hostile to the constitution; the latter eminently so. The probability of a development of deleterious agents of the kind now alluded to, occurred to the reflective and philosophic mind of Dr. Prout, irrespectively of any considerations based on morbid anatomy. In treating of the general pathology of the assimilative processes, that writer observes, that "derangements of the *converting* function of the stomach occasionally constitute an original disease, the effects of which are still more formidable than those arising from disordered reduction. Thus, in diabetic affections, the reducing function of the stomach seems, in some instances, to be almost morbidly active; and farinaceous (and even other) matters, are reduced to the condition of low, saccharine matter, which the converting function of the stomach is incapable, as in health, of changing into the elements of chyle or blood. The consequence is, that this reduced or dissolved saccharine matter is taken up with the little chyle that may be formed; and after producing various derangements in the transit through the system, is ejected with the urine. Again, the converting process may be wrongly performed; the saccharine matter, for instance, instead of being converted into chyle, may be converted into oxalic, lactic, or other acid and deleterious matter, which may not only produce much local discomfort, but serious disorder in their subsequent passage through the sanguiferous system and kidneys, or even through the bowels.[1]"

It must, however, be granted, that the evidence of demonstrative

[1] Nature and Treatment of Stomach and Urinary Diseases, p. xliii.

chemistry is still required for the verification of these views and opinions. How far they are supported by the limited number of facts now adduced from anatomy, must be determined by future and more extended observations, which shall establish or disprove the general coincidence of Diabetes with the lesions and alterations which I have described. I therefore leave the inferences which I have drawn, as conjectures only, which may or may not be well-founded, but which, in the present state of our knowledge, will not, I trust, be deemed altogether unwarranted by the premises. In diseases which are both mysterious and fatal, the temptation to speculate is always strong; and I may, on the present occasion, have yielded too readily to the enticement, and so have given undue extension to this paper. I am more at ease with respect to another cause of the length which the communication has reached—the space, namely, which has been devoted to the complications met with in the several cases. It is scarcely necessary to observe, that no description of a case can be complete without a full account of its complications. These are rarely absent in any disease, however determinate and unequivocal its nature; and cannot, indeed, be disregarded by the practitioner; for, in whatever relation they may stand towards the dominant malady, they always constitute a serious element of perplexity or danger, embarrassing the diagnosis, thwarting the best devised remedial measures, exasperating sufferings, and, in fatal cases, often precipitating the inevitable crisis. In those diseases, again, whose nature is still obscure and undetermined, they seem no less deserving of attention and commemoration from their bearings on a true pathology. The history of medicine shews that, in not a few instances, what had been long known and received as a mere complication or frequent accessory, has proved to be the primary and real malady; and it is thus, probably, that, in the progress of pathological investigation, Diabetes will eventually be withdrawn from the category of urinary diseases strictly so called, and the kidneys, absolved from all blame in its production, be looked upon as really engaged in the friendly office of ridding the system of a pernicious poison.

London, March, 1850.

PROVIDENT DISPENSARIES: THEIR SOCIAL IMPORTANCE, AND THEIR ADVANTAGES TO THE MEDICAL PROFESSION.

By HENRY L. SMITH, Esq., Surgeon to the Eye and Ear Infirmary, Southam, Warwickshire.

The formation of Provident Dispensaries is a subject to which I have, for upwards of thirty years, directed my attention. The plan, therefore, which I desire to propose is not a speculative opinion, but the matured result of practical experience of the working of institutions of which I have been, directly or indirectly, the founder.

Before entering on the general consideration of the subject, I will

briefly state the circumstances which first directed my attention to the formation of Provident Dispensaries.

In the early part of my medical career, I was for a short time attached to the army; and there acquired those ideas of order and discipline, which I have since endeavoured to carry out in the duties of practical charity. Subsequently, I proceeded to establish an Eye and Ear Infirmary in my native town; and soon received such an amount of support, as to be able to calculate on an annual income of £120. This would be sufficient to pay the rent of a house, also the matron and servants; but it would not maintain the patients. The committee therefore determined that the subscribers, or parishes sending patients, should pay sixpence a-day for each child, eightpence for each woman, and tenpence for each man. Up to the present time, we have been able to keep in constant usefulness an institution, in which fourteen beds are made up; and, without any other aid, we have accumulated, from the profit on the patients' board and surplus subscriptions, nearly £500; a large sum in a neighbourhood where the number of the rich is greatly limited. From the success which attended this institution, I conceived the idea of remodelling the common method of supplying the poor with medical attendance, by the establishment of self-supporting Dispensaries; and I published a pamphlet, setting forth my views on the subject. The practical results of the plan proposed by me will be subsequently illustrated.

The necessity of remodelling the administration of our public medical charity will be obvious, from a careful examination of the working of the methods by which the poor are at present generally supplied with medical attendance. To make my remarks on this subject more intelligible, society may be divided into three classes:

1. Those who are able to pay for whatever they require.

2. Those who are willing, but unable to pay the usual charges of medical attendance.

3. Those who are utterly unable to contribute anything, and not unfrequently unwilling.

Of the first class I will merely observe, that the second has many claims on their attention: and that this feeling actuates the members of the first class, the number of charitable institutions which abound in this country is a sufficient proof. They have, however, done great injury by not making a sufficient separation, and confounding the second with the third class—those who are unwilling to pay. It is from the first class also, that medical men must expect payment for their labour: they can expect no adequate remuneration from either of the other classes.

The second class, who are willing, but unable to pay for medical advice, are very numerous. That they are willing to procure medical advice when it is brought within their reach, is proved by the fact, that in every place where the plan proposed by me has been fairly tried, they have done all that could be expected of them.

The persons belonging to this class are mostly in a condition, in which, under the present system, they must either act dishonestly, by incurring medical bills which they know they can never pay; or they must lose their independence, and descend into the ranks of beggary, by soliciting a charity ticket to some honorary Dispensary, or, still worse, by applying to the relieving officer for a parish order. Or they may take quack

medicines, or obtain medical advice from druggists. Many, again, have too much intelligence, and too great a feeling of delicacy and independence, to submit to any of these degrading alternatives, and frequently die without any assistance whatever.

The remedy proposed for these evils, is the establishment of Provident Dispensaries, to which all those who are willing, but unable to pay a bill for medical attendance, might periodically contribute a small sum, in no case exceeding one per cent. of their earnings. By this means, efficient medical aid would be secured to them in illness; and they would still be enabled to maintain a feeling of independence on charity, and at the same time have their minds relieved from that most uncomfortable incubus—a long bill.

It is evident that that can be easily done by the aggregate, which would be perfectly ruinous to an individual. One penny per week from each of one hundred persons will give an income of £21 13*s.* 4*d.* per annum; a sum fully equal to pay for medical advice of the highest class. It is probable that a hundred average adults may not have three months of confinement to bed from sickness among all of them in the year; and a few may require single doses of medicine, which will often ward off more serious attacks.

The main feature in which Provident Dispensaries differ from the generality of charitable medical institutions, consists, then, in this: that, while the Dispensary is supported by the contributions of the more opulent, each person who receives benefit from it has paid his or her share towards its funds. They have, moreover, the advantage of not being liable to the perversion of charity, which obtains to such an extent in our hospitals and dispensaries. It is a notorious fact, that many of the patients of these institutions are persons who can well afford to pay for medical attendance; and that the system of admission by recommendation from governors has often, intentionally or unintentionally on their part, the effect of utterly perverting the charitable objects which such institutions may be expected to have in view. Is it wonderful, also, that many of the poor are so, because they find it the best and only means of obtaining the attention of the rich?

There is a class of Provident Institutions in many districts, in which each member, by payment of a certain sum to the common fund, entitles himself and his family to medical attendance and pecuniary aid during illness. The management of these clubs is in the hands of those who thus derive benefit from them; and the principle of mutual charity, which, if properly regulated, they would tend to support, is often perverted by the admission of persons who, though perfectly able to pay for medical advice on their own account, have not a sufficient sense of their own dignity, or of justice towards their medical attendant, to prevent them from availing themselves of the benefit afforded by such institutions, and to which their poorer brethren have mainly contributed. Provident Dispensaries, if properly managed by a committee selected from the subscribers to the honorary fund, and by the medical men connected with them, obviate this evil, by preventing the admission of any but those for whom they are originally intended.

Plan of formation of Provident Dispensaries. The following plan is founded on the rules of the Royal Victoria Dispensary at

Northampton. It will, of course, require modification in some of its details, according to circumstances. 1. The funds of the institution are to be derived from the subscriptions and donations of honorary members, and the payments of free members. The honorary members to be governors, according to a scale of payments. 2. The honorary fund shall bear the general expenses of the institution; the free members' fund shall defray the cost of drugs; and the remainder, together with such portion of the honorary fund as may be proper, shall be proportionately divided among the medical officers. 3. The institution shall be managed by a president and committee, elected from the honorary members, in such way as shall appear desirable. 4. The medical officers shall attend daily in rotation: all legally qualified practitioners practising in the neighbourhood shall be considered, unless they decline, as medical officers. 5. The free members shall consist of working persons and servants, their wives and children, not receiving parish relief, and being unable to pay for medical advice in the usual manner. Any such person wishing to become a free member, shall leave his or her name, age, residence, and occupation, at the Dispensary, and deposit one month's subscription, which will be returned if the depositor be not admitted a member. Every free member, above fourteen years of age, shall pay one penny, and under that age one half-penny a week; but twopence a week will be considered sufficient for a man, his wife, and all his children under fourteen years of age. Servants who may be judged eligible by the committee, shall pay five shillings a year, in not less than half-yearly payments. The payments of the free members shall be made in advance. No one in arrear will be entitled to the benefits of the institution; and each family or member shall pay a fine of one penny for the arrear of every week. If any member be more than five weeks in arrear, his or her name shall be erased from the books. No one actually labouring under sickness can be admitted a free member, unless he pay an entrance fee of five shillings, in addition to the usual weekly subscription, and all his family enter at the same time. If any free member shall, through improved circumstances or otherwise, be, in the opinion of the committee, no longer eligible to the benefits of the institution, his or her name shall be erased from the books. Every free member shall have the choice of whichever medical officer he may prefer; but he shall not change his medical attendant during his illness, without the sanction of the committee. Those patients who are able must attend at the Dispensary between and o'clock in the morning, bringing their admission ticket. Those who are too ill to attend at the Dispensary, must send their ticket before nine o'clock in the morning; the medical officer by whom they wish to be attended, will visit them at their own homes. In cases of accident, or sudden illness, they can have the attendance of any one of the medical officers, on sending their admission ticket to his residence. No free member will be visited at his own home, if he reside beyond the limits of the parish. Any married woman being a free member, subscribing with her family twopence a week, may have, during her confinement, the attendance of whichever medical officer she may prefer, on depositing at the Dispensary five (or ten) shillings three months previously. The same amount will be added to the fee of the

medical officer out of the honorary fund. No woman is entitled to the benefit of this rule, unless she has been a member at least six months. Patients must find their own bottles. The children of the free members may be vaccinated on any morning, at o'clock. The medical officers will attend at the Dispensary every morning, except Sunday, in rotation.

Social Importance of Provident Dispensaries. The advantages conferred on all classes of the community by a well managed Dispensary of the class under consideration, are numerous; it will, therefore, be sufficient to call attention to a few of the most obvious.

1. As has been already pointed out, they offer material aid to those who are able and willing to maintain themselves by their own labour, but whose resources are not sufficient for the expenses incurred by illness. To such persons, they offer a ready means of obviating the alternative of either the degradation (to them) of applying for parish relief, of incurring bills for medical attendance, which they can never pay, of consulting ignorant and unqualified persons who pretend to treat diseases, or of allowing disease to obtain, unchecked, the mastery over their constitutions.

2. They tend to foster practical habits of forethought and economy. Having once perceived the advantages derivable from Provident Dispensaries, those who have received these benefits will be led to enter into combination for provision against other necessities or casualties of life, as clothing, old age, etc. Hence will arise, as has already been the case in several places, the formation of Mutual Benefit Associations for the supply of food, clothing, etc., to those who are in need. During any extraordinary epidemic visitation of sickness, also, the recipients of the benefits afforded by a Provident Dispensary, will be easily led to make some temporary provision to meet the additional wants which they may incur. As an instance of this, I may mention, that during the prevalence of cholera, in 1832, the free members of the Provident Dispensary in Southam were induced to subscribe an additional sum of sixpence per week for each family during the prevalence of the epidemic, and the proportion which was found remaining at its termination, was returned to them.

3. These Institutions also leave the patients, to a great extent, unembarrassed in their choice of a medical attendant. Confidence in the skill of the practitioner employed, is more or less essential to the successful treatment of disease: but this can hardly be expected to be the case when, as under the present system of parochial relief, the patient is required to call in the parish medical officer. Under the system of Provident Dispensaries, each free member has the power of selecting a medical attendant, and of changing the same at the end of a certain period, or often, if there be sufficient reason, at any time. It moreover enables them to easily have the combined medical skill of the Institution applied in cases of emergency.

4. Provident Dispensaries obviate the indiscriminate abuse of medical charity constantly practised in our Hospitals and Dispensaries. It is well known, that in such institutions, little or no discrimination is exercised by the governors in the granting of tickets of admission to applicants for relief: and the natural consequence is, that the benefits

of the institution are afforded to many who are well able to pay independently for medical attendance, while those who are really destitute are excluded. On this subject, I would refer the reader to the excellent pamphlet on *Sanitary Economics*, by Dr. A. P. Stewart, who has ably pointed out the evils of the present system of medical charity.[1]

5. Another benefit is, that the poor are led to apply for timely aid against the inroads of disease. I have already referred to the fact, that many of these prefer allowing disease to make progress—it may be irrestrainable—in their constitution, rather than submit to the degrading alternative at present offered to them. But the restraint thus imposed on their spirit of independence and honesty, is removed by the power of obtaining such assistance as is afforded by a Provident Dispensary: and that this is actually the case, is proved by the large proportion of applications for medical relief, made by persons labouring under latent ailments, during the first year of the opening of such institutions.

6. Provident Dispensaries will tend to diminish the expense which is incurred under the present system of poor-law relief. By enabling many to obtain medical aid without applying to the parish, they will directly diminish the burden of the poor-rates, which will thus be more especially applied to the objects for which they are properly designed. There will still be many of those who are able to provide for themselves and their families, but yet have not sufficient honest pride to keep them from falling into the ranks of pauperism. I do not anticipate a complete reform in this respect; but the system which is the subject of this paper, will tend to effect a separation between those who are embarrassed by temporary necessity, and the pauper from obstinate improvidence. And it is probable that Provident Dispensaries will be found to possess such advantages, as to lead parish authorities to contract with them for medical attendance on the paupers. By this means, many of the evils arising from the farming of the sick poor will be averted.

7. The medical profession will also derive no small share of benefit from the establishment of Provident Dispensaries. They will be spared the irksome task of sending bills for attendance to persons who cannot pay the usual fees, while, at the same time, they will receive a greater amount of remuneration for their labour, provided care be taken to admit none but the really needy to the benefits of the institution. The restraint imposed by the idea of unpaid bills, or by the fear of incurring them, being removed, the patients will be led to apply at a sufficiently early period to enable the medical man to use the proper means of treatment, with some probability of success; and the result of this may be an increased confidence in his skill on the part of his patients.

The system will, moreover, tend to bring practitioners into closer contact with each other; and, while it increases their mutual good-feeling, will afford them opportunities of obtaining that improvement in professional knowledge, which is better effected by a combination, than by the unaided labours of a single individual.

Many other advantages arising from the adoption of Provident Dis-

[1] See a review of Dr. Stewart's pamphlet in the LONDON JOURNAL OF MEDICINE for February, p. 173.

pensaries might be pointed out; but I will content myself by quoting some extracts from letters received by me from the vice-president, and from one of the surgeons of the Dispensary at Northampton, illustrating the practical working of the system in that town.

The following is an extract from the letter of H. B. Whitworth, Esq., Vice-President: it is dated 5th January, 1850. "The Northampton Dispensary was commenced under very unfavourable circumstances; but the institution has now, I think, taken a firm hold on the affections of the classes for whom it was established, which has been proved beyond all doubt within the last six months.

"About the month of August last, the cholera broke out in this place, when, at the request of a self-constituted Board of Health, and of the Improvement Commissioners, the Dispensary was thrown open to all persons labouring under cholera and diarrhœa. This proved to be very efficient, as upwards of 400 applications were made at the Dispensary, and about three times as many visits were made by the medical officers of the institution at the homes of the patients; but the most surprising result, was the increased number of applications that were made at that time to enter the Dispensary, viz., about 500 in the four consecutive weeks after the opening of the Dispensary to the public; and from that time to the present about 500 more: so that upwards of 1000 new members have entered since August last; and our receipts are now upwards of £10 per week from the poor, and our total number of members is upwards of 4000.

"In a social point of view, I consider that the working of the provident principle is doing a great good; and I doubt not but that, in a few years, the Dispensary will be considered, by all classes, as the most important public institution connected with our town.

"With my best wishes for your success, believe me, dear sir, yours sincerely, "Henry B. Whitworth."

Mr. Spurgin, one of the surgeons to the institution, writes as follows: "I am decidedly of opinion that Dispensaries, based on the principles referred to, are capable of affording incalculable benefit to our community. Considerable vigilance and care should be taken by the executive committee in the selection of objects, or it would unquestionably clash with the interests of the practitioners in the locality, and of course with that of the officers themselves. The honest man, having no other resources than his own industry, is the party to admit. A second class of persons are admitted, who would not pay at all, and in this way positive relief is afforded to the medical man; the trouble of keeping accounts, of bill delivering, of bad debts, and of sore mortification, is often and assuredly prevented, by the admission of this class. I would also refer to a third class of patients, now very generally admitted; these are domestic servants. I have given this grade much thought, and am of opinion, that where they are receiving a certain amount of wages, they ought not to be admitted. I have for many years found them quite competent and very ready to pay; I should not admit them when they are receiving over £9 or £10 a year. The introduction of this system has a great tendency to prevent the illegal and highly injurious, and frequently fatal practice of the druggist; and

I am sorry to state that I have met with many instances of mal-practice, attended with fatal consequences,—a practice, too, which I feel it my duty to prevent and expose, whenever and wherever it may come fairly before me. Of course, for similar reasons, the administration of quack medicine may be prevented. With regard to our own Dispensary, I believe it is becoming more and more appreciated, as proved, not only by the great and rapid increase of members, but also by the expressions of gratitude with which we, as its medical officers, are frequently meeting. Yours very faithfully, B. Spurgin."

With these testimonies in favour of the system I advocate, I conclude. If the remarks I have here made, in any way tend to the more extended adoption of the plan in behalf of which I have so long laboured, and which I am convinced is fraught with great benefit, both in the avoidance of evil, and in the conferring of positive advantage on all classes of the community, I shall receive a great reward.

Southam, Warwickshire,
March 1850.

BIBLIOGRAPHICAL RECORD.

Observations on some of the Parts of Surgical Practice. By John P. Vincent, late Senior-Surgeon to St. Bartholomew's Hospital. pp. 364. London, 1847.

Few surgeons have enjoyed greater opportunities for observation than the gentleman who, for so many years, filled the responsible office of senior-surgeon to our largest metropolitan hospital; few can have discharged the onerous duties which devolved upon them with greater advantage to their patients, or greater credit to the establishment; and, we may further take upon ourselves to say, that none can have carried with them, on their retirement from public life, more general respect, or more richly deserved esteem, than the author of the volume before us. Years have elapsed since we had the advantage of reaping the benefit of his instruction, but we cannot forget that the principles of practice, laid down by Mr. Vincent, have been of essential service to us in our subsequent career; nor that the kindness of manner and gentlemanly feeling displayed by him on all occasions, exercised a beneficial influence on the habits, and softened the manners of the students who attended his wards. The volume before us contains the principles of his practice, matured by experience and improved by reflection; as such, it has pretensions of no ordinary character.

The first chapter is devoted to the consideration of the Claims of Surgery to be classed as a Science. It is ably written, and proves that Mr. Vincent has thought much and read much on other subjects than the mere practice of his profession. As we propose to devote such space as is at our command, to the essential features of the volume, we must content ourselves with this passing remark on the chapter in question. Before proceeding further, we must express our regret at the promiscuous manner in which the subjects are mingled together without any plan or connection; there are neither tables of contents nor marginal references; hence the reader is perplexed in his search, and has to turn to the index to discover any particular subject. In the next edition we trust, that this want of order, which is a blemish on the book, will be rectified.

As a preliminary to an exposition of his views on the treatment of diseases, Mr. Vincent offers some valuable observations on muscular action, and on the conservative powers of nature; pointing out the immense importance of a just comprehension of these, in reference to the management of fractures and dislocations, and the healing of wounds. It is well remarked that "surgeons have puzzled their brains as to the best means of keeping the parts of a wound of the tongue together, whether by stitches, &c. The fact is, all meddling does harm. If the patient will keep the tongue quiet at the bottom of his mouth, the wound will heal, as I have seen, better than anything his busy hand can do to effect it." (p. 18.) To many other injuries does the same judicious principle apply. The *vis medicatrix naturæ* is often far better than the officious interference of what is sometimes miscalled medical 'aid'. A good test of a sound practitioner is to know when to hold his hand, and, in the language of Dr. Johnson, not 'to encumber with his help'.

Mr. Vincent lays great stress, and justly, on the assistance rendered by the muscles in the Reduction of Dislocations—it is they, not the surgeon, which complete the act of reduction; his efforts are limited to drawing the bone so near the socket, as to bring the muscles into a situation to resume that association, in which all their actions have been accustomed to take place; they do the rest, and it is the absence of their assistance which materially increases the difficulty of reducing dislocations of long standing. The consentaneity of action between the muscles having been broken up, new associa-

tions are formed under new conditions, and they are no longer eager, as it were, to resume their pristine condition of action, and cease to render valuable aid to the operator. Thus it is by appropriate and judicious manipulation, not by force, that old luxations are to be reduced. Mr. Vincent places no reliance on bleeding, tartar emetic, or the warm bath, as auxiliaries in these cases—such expedients he regards as quite nugatory.

The most common fracture of the scapula, is that of the inferior angle and part of the spine of that bone. These injuries are exceedingly painful at first, but require no bandages—simply recumbency in bed. In fractures of the acromion, also, repose in bed, with the arm to the side, is all that is recommended.

Mr. Vincent has not seen a recent case of luxation of the head of the radius backwards, but from the old cases of this accident which have come under his notice, he is of opinion, that the injury is apt to be overlooked; he, therefore, advises all surgeons to be most scrutinizing in examining injuries of the elbow-joint, lest this derangement should escape detection. Cases of fracture of the olecranon, which occur about the middle of the semilunar notch, are treated by perfect extension, which leaves no inequality in the union of the parts, and does not subsequently deteriorate the arm at all. Another injury, when the fracture takes place just at the root of the coronoid process, is accompanied with more pain, and leaves more imperfection than the former. On fractures of the fore-arm, two observations are made. One is, that the author has seen the greatest mischief arise from using bandages in this injury, the broken parts of the two bones having been pressed together and so united, that the limb has been made almost useless. He recommends two splints simply, care being taken that the thumb be kept quite vertical to the little finger. The other observation is, that the want of power in the hand, and the pain which often attends oblique fracture of the lower end of the radius, are attributable to bandaging. If pressure be made use of, it is on that part of the radius where both the flexor and extensor tendons pass in grooves in the lower end of the bone. They become involved in the inflammation and effusion of lymph consequent to the injury, and are thus rendered useless.

Simple as the operation may appear, the reduction of dislocation of the phalanges of the fingers and toes is often attended with vexatious difficulty, if the true principles of action are not understood. They are as follows: "If the lateral ligaments are entire, the phalanx that is dislocated lies over and parallel to the other, and the lateral ligaments are now at right angles instead of being in the same line as the bones; and, therefore, by the laws established in the resolution of forces, any power to draw the bone in the line of its axis, must only press the bones more closely together. The phalanx must be first drawn at right angles over the upper bone, and then pressed laterally, so that the end may be placed over the fixed bone, and then turned upon this point into its place. This first cross position must sometimes be made in the direction contrary to that of placing it over the end of the other, and then brought into the straight line . . . . Some years ago, a patient was brought into the hospital with a luxation of the first phalanx of the second toe, upon the metatarsal bone; a very long and powerful extension had been made, and without any impression upon the displaced bone; I bent this phalanx at right angles to the other bone, and with one finger pressed the projecting end downwards, and then made the other end revolve so as to make a straight line with the fixed bone. Thus, without any pain and with the utmost facility, the reduction was effected." (p. 40.)

Fractures.—When more than one rib has been fractured, Mr. Vincent regards the injury as of importance, and, from his experience, anticipates a fatal termination when several are broken; but he does not regard the occurrence of emphysema, *per se*, so grave a complication as is commonly supposed. Frac-

tures of the vertebræ are not alluded to, which we are rather surprised at, considering the importance of injuries about the spine. A very singular accident deprived us of a near relative some years ago: whilst out shooting, he leapt from a high bank into a rough ditch, and slipping, struck his back with much force against the stump of a tree. From that time until his death, about four months after, he suffered constantly from pain in the loins, bloody urine, etc.; and *post-mortem* examination showed that a splinter had been struck off the transverse process of one of the vertebræ, and had penetrated the left kidney, there setting up such morbid action, that the kidney was reduced to a mere bag of pus.

In the treatment of the fractures of the femur, Mr. Vincent prefers the position on the side, where the bone is broken just below the trochanter minor, or in the middle of the shaft; but the straight position is adopted when the fracture is just above the condyle. To the inclined plane and the long straight splint, he has decided objection.

A troublesome accident, both for patient and surgeon, is dislocation of the semilunar cartilages of the knee; the case of course being marked by the joint becoming locked on some sudden motion. The true way of manipulating here, is to place the patient on the affected side, with the limb bent; and then to rotate gently the tibia on its axis. This seldom fails to replace the luxated cartilage.

In the treatment of fractures of the leg, Mr. Vincent employs the least possible amount of apparatus, and allows most of his patients to get about a little in three weeks; crutches he discards, for the patient has first to learn the art of using them, and then he has still to learn the art of walking alone. A case recently came under our notice, in which a lady had been placed on crutches by an empiric, for a really trifling affection of the ankle. For eighteen months, she had used them without the least necessity on earth: her figure had been completely spoiled; the leg had diminished in size nearly one half for want of use; and no infant could have been more clumsy or helpless, in its efforts to walk, than this poor lady without her crutches. We fear that they are often recommended without a thought being bestowed on the evils to which they give rise.

There are certain cases in which experience teaches us, that it is better to trust to the *vis naturæ*, than to be poking and meddling with instruments. A child is brought with an ear of barley thrust up its nostril, or a bit of potatoe in the ventricle of the glottis; use instruments, and the chances are a hundred to one that you set up an immense amount of irritation and fail to remove the foreign body; let it alone, it will become covered with thick mucus, and soon come quietly away.

In the treatment of Carbuncle, Mr. Vincent justly observes, that the first object which should be held in view, is to soothe and tranquillize, by the employment of salines and sedatives. The chief derangement which we have to combat, is an irritable excited state of system which has to be subdued. He recommends only the most soothing applications to the wound, and is of opinion that, in almost all cases, the sufferers are drinkers. According to our experience, there are many exceptions to this rule. One of the most formidable cases which have fallen under our notice, occurred last autumn, in the practice of an eminent surgeon, Mr. Poyser of Wirksworth. The patient was a lady of delicate frame and exceedingly abstemious habits, but tormented by dyspepsia. She had two carbuncles formed at the same time; one of immense size on the right scapula, the other on the sternum. The treatment adopted was that of bold incisions: dressing of tincture of tolu, effervescing salines with tonics, and when she could bear it, liberal diet; which practice was attended with the happiest results. We have seen her within the last few days, and find that she is still subject to boils, and is sadly tormented by intense itching in the cicatrices of the incisions: a troublesome but not uncommon sequence. The carbonate of manganese has been tried in her case with advantage.

Fistulæ. In a previous number we had occasion to advert to the opinions of Sir B. Brodie and Mr. Syme, on the formation of fistulæ. Mr. Vincent has had many opportunities of seeing the abscesses which, in his opinion, give rise to fistulæ in ano. When he feels a deep-seated doughy tumour in the mass of fat, filling up the ischio-coccygeal space, he transfixes it at once, and in the very centre of the mass a little pus is found ; this prompt measure stops all further progress of the abscess, which would, otherwise, most probably find its way to the rectum, and terminate in fistula. The opening in the rectum can generally be detected by a small papillary growth projected into the canal. There are several valuable observations on the formations of matter that occur in the perinæal region, but for them we must refer to the work itself.

In the treatment of Piles, Mr. Vincent advises the puncturing external piles, and lays great and just stress on squeezing out the coagula, by which bleeding is prevented. Internal piles he also excises, and considers that there is no fear of hæmorrhage if two simple measures be adopted—namely, making use of an injection of sulphate of iron, one grain to an ounce of water, and carefully squeezing out the coagulum. This we should recommend to the consideration of our readers, from actual experience of its value, not only in arresting hæmorrhoidal bleeding, but also in prolapse of the bowel.

The experience of Mr. Vincent in the management of Diseases of the Urinary Organs, has been extensive, and his opinions, therefore, are deserving of respect. In the treatment of strictures, the gentlest means are advocated, but the practice is decided when there is any appearance of effusion of urine. When there is any hardness felt, indicating the barrier of lymph thrown out against the extension of the effusing urine, a scalpel is to be plunged at once into the tumour, and a free opening made, and thus is afforded the best prospect for the speedy healing of the parts. No catheters are to be kept in the passage, but the whole treatment should be directed to soothing the structures, the patient being kept in bed and his general health carefully attended to. The prostate gland is, in the author's opinion, more frequently the subject of derangement than is commonly imagined, being generally somewhat inflamed even in cases of slight gonorrhœa. The remarks on the use of the catheter are full of good sense, but our space will not permit us to do more than direct attention to them. Mr. Vincent remarks, that cases of stricture, with complete obstruction, seem to have been more common formerly than now, and that he has many times punctured the bladder above the pubes with the happiest effect. There has never been any infiltration of urine of any consequence, and the wound has healed kindly. It is preferable to cutting into the membranous portion of the urethra, which, in the author's opinion, is far more difficult and much less successful.

On one point we venture to differ in opinion with Mr. Vincent, and that is, as to the treatment of Strumous Ophthalmia. The treatment here recommended, when there is intense intolerance of light, is to give the child three or four grains of hydrargyrum cum cretâ, twice a day for about a fortnight. In our experience, such a quantity of a mercurial preparation is hazardous, and likely to produce constitutional effects which are not required. A few doses of hydrargyrum cum cretâ are most useful to correct the secretions ; but when that is accomplished, tonics, sedatives, and the iodide of potassium, combined with judicious counter-irritation, attain the object speedily and with more safety than a course of hydrargyrum cum cretâ, or any other mercurial.

The work is so pregnant with valuable matter, that almost every page may be consulted with advantage. The limits of a review will only admit of a selection of the more striking and salient points. These we have touched upon, and feel confident, after a third perusal, that the old practitioner and the young student may alike glean sound and useful information from the ripe experience and well-matured judgment displayed, in this admirable and most practical volume.

Annals of Anatomy and Physiology. No. I. Conducted by John Goodsir, F.R.SS. L. and E., Professor of Anatomy in the University of Edinburgh. pp. 95. Edinburgh : 1850.

We welcome this new scion of periodical literature with cordiality, from the respect we bear to Professor Goodsir, whose well-earned and solid reputation has added a wreath to the laurels of the University of Edinburgh. The work has nothing provincial in its appearance, but, on the contrary, is extremely well got up as regards paper, printing, and illustrations. It bears upon the wrapper (which is similar in colour to our own) a mystic symbol—a sweep resembling the form of the shell of Nautilus Pompilius—the meaning of which we do not understand.

The following are the titles of the original articles :—A description of the Muscular Structure of the Tongue of Man, and certain of the Mammalia, by Mr. Zaglas. II. On the Anatomy of Forbesia, by Mr. H. D. Goodsir. III. An account of some Monstrosities, by the late Dr. John Reid. IV. On the Structure of the Glands of the Alimentary Canal, by Dr. Allen Thomson. V. Note on the Refracting Power of the Eye, by Professor J. D. Forbes. VI. On the Structure of the Spleen, by Dr. Sanders. Thus we have specimens of Anatomy, Physiology, Comparative Anatomy, and Natural Philosophy, which we presume shadow forth the subjects to which the journal will be devoted—subjects affording the most ample scope for investigation and elucidation. Under the fostering care of so accomplished an editor, the work deserves, and we trust will obtain, much success. There are no extracts given from other works : but there is furnished a very useful Bibliography, containing the "titles of Memoirs, and Papers in Transactions and Periodicals, and of special Treatises on Anatomy and Physiology". The *Annals* are to appear quarterly.

Instructions for Making Unfermented Bread : with Observations on its Properties, Medicinal and Economic. By a Physician. Sixteenth edition, with Additions. London : 1849.

In our number for February, p. 191, we copied an article from the *Medical Gazette*, on arsenic being present in Unfermented Bread made with an impure acid. In the *Instructions for Making Unfermented Bread* now before us, and to which allusion is made in the article in question, we find the following passage at p. 24, sixteenth edition : "The acid recommended is the muriatic of commerce, as prepared for the London market. When the sulphur used in the preliminary process is obtained from iron pyrites, as it is in several of the manufactories in the northern counties, the acid is impure, and therefore unfit, till purified, for making bread." And again, at p. 27, "the wholesale price of the soda in London, at the present time, is 17*s.* per cwt., and of the acid, 8*s.* per cwt.; and they may be obtained at these rates, and of the qualities required, from the manufacturers, Messrs. C. Tennant, Sons, and Co., 101, Upper Thames-street. The baker who supplies the author's family obtains soda at 3*d.* per lb., and acid at 2*d.* per lb., in moderate quantities, of Mr. Bainbridge, 60, Leather-lane, Holborn." We may add, that the proper acid may be procured in like manner from the manufacturers, Messrs. White, Castle-street, Saffron-hill, or from Mr. Wicstead, Battersea, or, as we believe, from any of the other London makers—certainly from all who make the article for medicinal purposes. There can therefore be no difficulty in securing a supply of the right material, either in large or in small quantities, and no excuse for substituting an inferior, still less a noxious, preparation ; but we concur with the *Gazette* writer in thinking, that the sale of the poisoned acid should be altogether prohibited.

With reference to the superiority of Unfermented Bread, which has been called in question by the writer in the *Gazette*, we avail ourselves of another quotation from the *instructions* before referred to. "Bread so made (p. 11)

contains nothing but flour or meal, culinary salt, and water. It has an agreeable natural taste, keeps much longer than common bread, is more digestible, and much less disposed to generate acid. Common bread, like everything that has been partially fermented, ferments easily again, to the great discomfort of many stomachs ; and not only so, but, by acting as a *ferment*, it communicates a similar action to the food in contact with it, when the digestive power is too weak to control or counteract the operation of the chemical affinities, as 'a little leaven leavens the whole lump.' Unfermented Bread, being free from this defect, is beneficial to those who suffer from headache, acidity, flatulence, eructations, a sense of sinking at the pit of the stomach, distension or pain after meals, and to all who are subject to gout or gravel."

We have heard the truth of much of this statement confirmed, by those who have had long experience in the use of Unfermented Bread. We have met with dyspeptics who had been obliged to abandon common bread entirely, and to substitute biscuits ; but who are able to make use of Unfermented Bread, not only without inconvenience, but with great comfort in feeling and improvement in health. The quotation just given furnishes the explanation. Common bread ferments in the stomachs of the weak, which the other and biscuits do not. For a similar reason, Unfermented Bread is often very salutary in cases of irritable and relaxed bowels. The brown variety of this bread, it is well known, has cured multitudes of habitual constipation.

We strongly recommend this little pamphlet to the attention of our readers. It is an important contribution to the science of dietetics. Chalmers has well said :—"Philosophy is never more usefully and more honourably directed, than when multiplying the stores of human comfort and subsistence."

Hastings Considered as a Resort for Invalids : with Tables illustrative of its Temperature, Salubrity, and the General Character of the Climate, showing its suitability in Pulmonary and other Diseases. By James Mackness, M.D. Second Edition. pp. 187. London : 1850.

We have found this work of Dr. Mackness, written though it be for popular rather than professional perusal, full of most valuable and interesting information. Hastings is one of those home resorts for invalids which, in hygienic advantages, far excel many of the more famous places in foreign parts, whither it has become too much the fashion to transport pulmonary and other invalids. Physicians, who wish to know the advantages of Hastings as a resort for the sick, will find everything pertaining to the subject fully treated of in the work before us.

Essays on the Puerperal Fever ; and other Diseases Peculiar to Women : selected from the writings of British authors previous to the close of the eighteenth century. Edited by Fleetwood Churchill, M.D. Printed for the Sydenham Society. pp. 552. London : 1849.

This is a valuable volume ; it contains the following works : I. Historical sketch of the Epidemics of Puerperal Fever. By the Editor. II. Reprints of works on the same subject : by—1, Thomas Denman ; 2, Nathaniel Hulme ; 3, John Leake ; 4, Charles White ; 5, Thomas Kirkland ; 6, Butler ; 7, Joseph Clarke ; 8, John Clarke ; and 9, A. Gordon. III. Miscellaneous Essays. 1, Fothergill on Management proper at the cessation of the Menses ; 2, Dr. Macbryde's cases of Tumefaction of the Labium after Delivery ; 3, Dr. John Clarke on Cauliflower Excrescence of the Uterus ; 4, Dr. John Clarke's two cases of Tumour of the Uterus ; 5, Dr. Denman's Account of an Excrescence from the Womb. The usefulness of the volume is much enhanced by a copious index.

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

PRACTICE OF MEDICINE AND PATHOLOGY.

GRISOLLE ON THE RECIPROCAL INFLUENCE OF PREGNANCY AND PHTHISIS.

The following is a translation of an article by Dr. A. Grisolle, physician to the Hospital of Saint Anthony, in Paris, published in the *Archives Générales de Médecine* for January 1850.

It is generally admitted, that if Pregnancy occur in a phthisical patient, the progress of the Consumption is retarded; but that, after delivery, the organic lesion proceeds more rapidly, and death more speedily ensues. This doctrine reckons among its advocates, Bordeu, Cullen, Joseph Frank, Portal, Baumes, and other authorities of note. The question has received various solutions in our own time. If Bayle and Laennec said nothing about it, most authors have admitted the common opinion. M. Andral, in the first edition of his *Clinical Medicine*, considered, from the observation of nine cases, that Pregnancy did not influence the progress of Phthisis in the manner generally supposed; but, in the following editions, having observed a larger number of cases of a contrary nature, he has adopted the opinion, that the symptoms of Phthisis are suspended, or at least remain stationary, during the course of pregnancy.

When M. Louis, in 1843, published the second edition of his *Récherches sur la Phthisie*, he did not possess the documents necessary for the solution of the problem: but in referring to the single instance which he had observed, and which was contrary to the generally received opinion, he makes an appeal to the zeal of physicians, to settle a question of so great importance. More recently (1847) Drs. Hervieux and Robert (of Strasbourg), have published in the *Union Médicale* the histories of two cases which, like that of M. Louis, show that Pregnancy exerts no modifying effect on *(ne modifie point)* the progress of Phthisis; but these few and isolated facts might be considered as exceptional, and have not changed the generally spread opinion.

Having been fortunate enough, during several years, to collect from several hospitals, and especially from that of S. Antoine, the histories of seventeen cases of pulmonary Phthisis developed during Pregnancy; being indebted also to the friendship of M. Louis, for the communication of ten other unpublished cases, I have thought myself in a position to elucidate, if not to entirely solve, the difficult question which I have proposed to consider.

Consumption did not appear in all the cases under the same conditions. In twenty-four, the organic disease commenced during Pregnancy, at a period more or less near its commencement; while in three, the rational signs of tubercle already existed, but the disease did not manifest itself till a later period. In none of these cases was the pulmonary affection retarded; on the contrary, it made rapid progress.[1]

It would be important to have a large number of equally well-marked cases; but they are rare. When, indeed, we reflect on the profound influence which pulmonary tubercles exert on the constitution, as well as the uterine

[1] In a foot-note appended to the termination of his paper, M. Grisolle states, that he has met with three additional cases of the development of Phthisis during Pregnancy. In two females, the disease progressed rapidly, and had arrived at its third stage at the time of delivery. In two cases, delivery took place at the full term; and in one, at the end of the eighth month. One of the females gave birth to a strong child, which she suckled for two months, and which grew as well as an infant placed in better conditions. This anomaly may be explained by the slow progress of the tuberculous affection, and by the perfect integrity of the digestive functions.

disorders which so generally supervene at an advanced period of the disease, we can understand why conception should be rare in phthisical women. In almost all the cases in which Phthisis coexists with Pregnancy, it is found that the latter has occurred first, and that it is in a more or less advanced period of its course, that pulmonary tubercles have suddenly manifested their presence. These facts are very important, as showing that there is really no antagonism between Pregnancy and Phthisis ; but the subsequent progress of the affection proves also, that gestation has neither modified the symptoms, nor exercised any tardative effect on the pulmonary lesion. In fact, the symptoms of tuberculization, whether local or general, are developed in the same order, and with the same regularity and constancy, in women who have become phthisical during Pregnancy, as in those who have contracted the disease under ordinary circumstances. On the other hand, Pregnancy has not increased the violence or frequency of certain accidental symptoms of Phthisis. It might be thought, for instance, that the abdominal distension would render the dyspnœa more painful, and hæmoptysis more frequent; but it is found that the bronchial hæmorrhage, far from being more common, is even somewhat less frequent in the females of whom I speak, than in the phthisical patients, aged from 19 to 40 years, whose cases have been analysed by M. Louis. The progress of the disease has then progressively increased in all the cases ; and its total duration has been diminished rather than augmented. Thus, in all, the disease has terminated at from the eighth to the fifteenth month from the commencement of the symptoms ; its mean duration has been nine and a half months, which is lower than in an equal number of non-pregnant females of a similar age. But what is still more conclusive, this average of duration is lower than that which M. Bayle, and especially MM. Louis and Andral, have laid down as the mean period for the working class.

We are hence led to conclude, that Pregnancy cannot exercise that tardative power on the progress of Phthisis, which is attributed to it. Instead of tending to prolong life, Pregnancy hastens the progress of the organic lesion ; and, indeed, we cannot understand how it should be otherwise, for the system, weakened by diarrhœa, by nocturnal sweats, and by expectoration, and incessantly undermined by hectic fever, is not in a condition to support two lives. Various accidental symptoms also, often occurring in the course of Pregnancy, and increasing the sufferings of the patient, oppose a further obstacle to nutrition, and must hence favour the progress of Phthisis. It is scarcely correct to say, with the physicians whose doctrines I oppose, that during Pregnancy all the organic activity is concentrated on the uterus, and that this organ prevents or retards disease in all the others. It is difficult to understand, how this opinion has been so generally entertained. We could easily understand it, if Pregnancy, without influencing the foundation and the progress of the disease, only rendered some of its principal symptoms less evident or more obscure ; but this is by no means the case ; and, whether we consider the local disturbances, and the phenomena furnished by the different methods of exploration, or study the general and sympathetic symptoms, it is impossible to discover any essential difference between the Phthisis of pregnant and non-pregnant women. The facts which I have analysed have been so similar and constant in their occurrence, that it is rational to consider the results furnished by them, as evidences of the correctness of my observations.

We have now to inquire whether, as is generally asserted, accouchement and the puerperal state accelerate tuberculization, and render the approach of death more speedy. I think that here, also, the exceptions have been taken as the rule. Without doubt, a latent Phthisis may suddenly become active, or a well-marked case of the disease may proceed more rapidly after delivery ; but the same fact is often observed in convalescence from various diseases, or on the occasion of certain organic changes or disturbances. If we see some phthisical females die a few days or a few weeks after delivery, either at the

full time, or premature, it no less happens in those who, having arrived at the extreme limits of the last stage, worn out by hectic fever, by sweats, and by diarrhœa, die, as if exhausted by the last effort of nature to expel the fœtus. But, I repeat, such cases are rare. Thus, twelve females, some of whom, at the time of delivery, were in the second, and most in the third stage of Phthisis, have continued to struggle, on an average, four months, against the progress of Consumption ; and in all, the symptoms have been those observed in ordinary cases. In three, out of ten phthisical females, who were only in the first, or at the commencement of the second stage, the progress of the disease after delivery was slow ; two only manifested a notable aggravation ; while five, or one half, shewed in the general symptoms, and one even in the local symptoms, a sensible amelioration, so as to be able to leave the hospital, and resume their occupations. I must, however, add, that this amelioration was not sufficient to allow a hope of cure, or of the suspension of the disease for any length of time. It then results, that delivery and the puerperal state have not that influence on the progress of Phthisis, which is generally attributed to them ; that, most commonly, tuberculization goes on as before, till death ensues ; while sometimes, when the disease is less intense, it is more or less perfectly arrested.

It may now be interesting to inquire whether Phthisis, in its turn, does not modify Pregnancy, and produce certain important effects on the act of labour, on the sequelæ of delivery, and on the nutrition of the fœtus. It is incontestable, that phthisical females have less chance of bringing their Pregnancy to a successful termination than those who are in health : but it is worthy of remark, that the former have not that tendency to abortion which we would expect. Thus, out of twenty-two females who were carefully watched, three only aborted at the fourth and sixth months ; three others were prematurely delivered at the eighth month ; while all the rest went to the full term. In almost two-thirds of these latter, however, tuberculization had set in during the early months of gestation, and had induced extreme cachexia. In this point, there is a great difference between Phthisis and acute pulmonary diseases. In 1841,[1] I pointed out that pneumonia, in pregnant females, provoked abortion or premature labour in more than half the cases in which it occurred. The facts which I have since observed have confirmed these results. This difference between an acute and chronic affection, is naturally explained by the great constitutional disturbance produced by the suddenness and violence of the attack of pneumonia, while Phthisis is slow in its development, so that the system seems to become accustomed to it, and is not so readily affected as by the sudden invasion of an acute disease.

The females to whom I have referred, suffered very slightly from labour pains in their delivery. Excepting one, who was in pain for twenty-four hours, all the rest, even primiparæ, expelled the fœtus after three or four hours of very moderate suffering. The shortness of the labours may be generally explained by the smaller size of the child, but perhaps better by the diminished resistance offered by the weakened tissues to their distension. The children were, indeed, often weak and meagre ; but in more than a fourth of the cases, they were strong, their tissues were firm, their forms round, and their plumpness presented a striking contrast to the phthisical appearance of the mother. There is nothing very extraordinary in the fact, that women who have suffered severely during Pregnancy, and have been almost constantly harassed with vomiting, are sometimes, notwithstanding their enfeebled state, delivered of well-formed, and even strong children. But when the same thing occurs in females whose constitution has not been impaired by functional disturbances, but by one of those organic lesions which are the expressions of a diathesis, and which produce a most profound alteration of the nutritive function ; when we see a fœtus live, and become normally developed in a body which is in a state of decay, and whose powers are irrecoverably

[1] Traité de la Pneumonie, p. 480.

diminishing day by day, I confess that we have here one of those preservative acts of nature, which we must admire without pretending to explain.

With the exception of a few patients who were in the last stage of Phthisis, and who died a few days or weeks after delivery, the lacteal secretion was established in sufficient quantity in almost all the cases. But one or two weeks, or a month at most, had scarcely elapsed, before the flow of milk was considerably diminished, and even entirely suppressed. For however short a time lactation was prolonged beyond this, it had always the effect of sensibly aggravating the Phthisis. This depended not only on the expenditure of nutritive material through the milk, but also on the additional fatigues to which women are exposed during lactation. This disastrous result is the less surprising, when we sometimes see the same causes induce pulmonary Phthisis in women who previously appeared healthy.

Suckling has also been very injurious to the children. The milk, being entirely serous, and deprived of nutritious matter, has soon excited copious diarrhœa; and the little patients, if not placed under the care of a nurse, have died in a few days with ramollissement of the intestinal mucous membrane. No tubercles have been found in any part of their body; and yet, how can we find circumstances more favourable to the development of these morbid products? These children, in fact, had lived in the uteri of females in the various stages of pulmonary Consumption, and, after their birth, had been furnished with insufficient, and probably deleterious aliment—a double reason for the production of tubercles. Their absence, in these cases, arises from the infrequency of tubercles in the lungs before the first dentition. Those who have maintained a contrary opinion, have mistaken the hepatisation from a subacute pneumonia for tuberculization: but an attentive examination by the naked eye and by the microscope, have shewn me that there is nothing common to these two states. These negative results of autopsies also demonstrate that the child, when born, seldom or never has the material germs of the malady, or miliary granulation, but only a special organic disposition, and an aptitude for their production in the lungs at a more or less distant period.

Such are the principal results at which I have arrived. We must conclude that it is rare for conception to take place in women labouring under confirmed Phthisis; while, in a pretty considerable proportion of cases, the first symptoms of pulmonary tuberculization occur during Pregnancy, and especially in the first three or four months. Unfavourable hygienic conditions, mental affliction, and misery, may appear sometimes to explain the development of the organic disease; but it is certain that, in most of these cases, Pregnancy was the only change in the condition of the females which could be supposed to act as a determining cause. But Pregnancy has not produced the disease; it has only put the predisposition in an active state, just as any other physiological or pathological change would act. Pregnancy and Phthisis, having had a nearly simultaneous origin, have proceeded without appearing to influence each other: but I have proved, from a comparison of other facts, that the Phthisis was rendered rather more rapid than in the non-pregnant state. The unfavourable influence of Pregnancy is also proved by the fact, that after delivery, provided always that the disease had not reached a too advanced stage, the organic disease is observed to be mitigated, or at least to remain stationary. On the other hand, pulmonary tuberculization does not modify, at least in a great majority of cases, the progress of Pregnancy. This point has been already perfectly established by Desormeaux and Paul Dubois.[1]

Such are the principal conclusions at which I have arrived. I do not offer them as absolutely correct; for they must be supported by more extended observation. The uniform results, however, which my observations have furnished, under whatever aspect we view them, must lead us to hope that they will be confirmed by subsequent investigations.

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[1] Dictionnaire de Médecine. Art. Grossesse, t. xvi, p. 389.

BELLADONNA IN HOOPING-COUGH, EPILEPSY, AND OTHER NERVOUS OR SPASMODIC AFFECTIONS.

M. Debreyne has been in the habit of prescribing Belladonna in affections of the nervous system since 1815. The following extract from a communication, made by him to the *Journal des Connaissances Médico-Chirurgicales*, contains some observations on the employment of this medicine in Hooping-Cough, Epilepsy, Hysteria, and other diseases in which the nervous element predominates.

Hooping-cough. Belladonna has been eminently useful in the epidemics of Hooping-Cough, which M. Debreyne has observed ; but the success attending its administration depends on the observance of the following rules. The dose of Belladonna should be proportioned to the number of months representing the child's age ; and the quantity to be taken in twelve days, (the ordinary duration of treatment) will be five centigrammes ($\frac{3}{4}$ of an English grain) multiplied by the number of months. Thus, for an infant six months old, the dose will be thirty centigrammes ($4\frac{1}{2}$ grains) in twelve days ; for one of two years and a half, the dose will be $1\frac{1}{2}$ gramme (23 grains) in the same period. For children above six years of age, the quantity of three grammes ($46\frac{1}{3}$ grains) is not exceeded. The medicine is always given three times in the day. For instance, the prescription for a child three years old would be—powder of the root of Belladonna, two grammes ; to be divided equally into twelve powders, of which one is to be given daily, in three divided doses. If there be vomiting, it should be given immediately after a fit of vomiting and coughing. Recourse should not be had to this remedy, until the inflammatory element has been overcome by leeches, emetics, etc. ; in other words, it is not to be employed before the tenth or fifteenth day, when the Cough will have assumed its specific character.

Epilepsy. M. Debreyne has found Belladonna most useful in those cases of Epilepsy, in which the attacks occur frequently, and even daily. In young subjects, it is not rare to find them affected with worms at the same time ; and M. Debreyne even supposes that this coincidence is constant, the worms being either a cause or a complication of the epileptic convulsions. Hence, he combines vermifuge medicines with Belladonna, with the effect of generally producing a rapid alleviation of the symptoms. In Epilepsy, the dose for the first day should be ten centigrammes ($1\frac{1}{2}$ grains) of aqueous extract of Belladonna ; five centigrammes morning and evening : on the second and third days, five centigrammes, morning, noon, and evening ; and on the remaining days, ten centigrammes are to be taken morning and evening. M. Debreyne refers to patients who have thus taken sixty-five centigrammes (10 grains) of the extract, in twenty-four hours, without experiencing the least inconvenience. In all cases, the use of the remedy must be continued for some time. An epileptic patient, aged 48 years, took twenty centigrammes of extract of Belladonna daily, during *twenty months*, with the effect only of diminishing the duration of the attacks : the treatment was persisted in, and they gradually became less frequent, and at last completely ceased. In a little girl, aged eight years, the attacks began to become less frequent on the fourth day of the treatment ; and at the end of a month, the patient was cured. As a precautionary measure, however, she continued to take five centigrammes of extract of Belladonna daily, during two months.

Hysteria. This affection receives marked benefit from Belladonna. The following is M. Debreyne's formula : camphor, twelve grammes ; assafœtida, twelve grammes ; extract of Belladonna, four grammes ; aqueous extract of opium, one gramme ; syrup of gum, a sufficient quantity to make 120 pills. One pill is to be given the first day, two on the second, and the dose is to be gradually increased to six pills in twenty-four hours.

Neuralgia. M. Debreyne relates several cases of the successful employment of Belladonna in this affection. One patient had suffered during seven or

eight years from very severe neuralgic pains in all parts of the head. All the usual remedies had been tried without effect ; a pommade of Belladonna was applied, which produced marked relief on the first day, and cured the patient in a month. Another case was one, in which daily paroxysms of frontal Neuralgia had obstinately continued for eleven years. The Belladonna pommade was applied : the pain suddenly ceased, and had not re-appeared two months after the employment of the remedy. The pommade which M. Debreyne uses is highly charged with the active principle. It consists of extract of Belladonna, lard, of each 12 grammes ; opium 2 grammes ; to be mixed accurately. It is rubbed over the seat of pain, especially during the exacerbations, or three times a day. On each occasion, a piece of the size of a hazel-nut is to be rubbed in for five or six minutes, until it is perfectly absorbed : this may be furthered by adding a little saliva from time to time.

Affections of the Eye. M. Debreyne has successfully used the pommade above described, in nyctalopia ; and in such cases, as well as in all affections of the eye requiring the use of Belladonna, he also prescribes the extract in the form of collyrium (two grammes of the extract to 125 grammes of rose-water.)

In asthma, convulsive spasmodic cough, hiccough, constriction of the œsophagus, of the larynx, of the neck of the bladder or uterus, in paraphimosis, in strangulated hernia, etc., M. Debreyne has seen benefit derived from the use of Belladonna. In nervous cough, he has given a pill of five centigrammes of extract of Belladonna, morning and evening, In spasmodic constriction of the orifice, in paraphimosis, and in strangulated hernia, he uses extract of Belladonna in the proportion of from 4 to 15 grammes to 15 grammes of Galen's cerate. The following is the formula of pills for internal use, which is most commonly employed by him in the above mentioned diseases : Extract of Belladonna, 8 grammes ; powder of gum acacia, 2 grammes ; with a sufficient quantity of some inert powder to form 120 pills, which are to be taken as directed for the anti-hysteric pills, up to 30 centigrammes of the extract in the day, provided that the patient experience no remarkable disturbance of vision. If this occur, the dose is diminished, or entirely suspended, to be resumed after the interval of a few days. [*Journal de Médecine et de Chirurgie Pratiques*, February 1850].

GRANULAR CORPUSCLES IN THE ENCEPHALON AND SPINAL CHORD OF HEMIPLEGIC PATIENTS.

Dr. Ludwig Tuerck has described the microscopic appearances presented by the brain and spinal chord of three Hemiplegic patients. His observations tend to show the necessity of employing other means than the unaided eye, in the investigation of parts supposed to be the seat of disease. We not unfrequently hear of *post-mortem* examinations, especially of the nervous centres, in which no morbid appearances have been detected either by the eye or by feel. The state of the brain or spinal chord is also often vaguely described as being " somewhat hardened", " of rather firmer consistence than usual"; and nothing more is said about the subject. Now we have no doubt, that if a microscopic examination were made in such cases, we should often find unequivocal proofs of disease. The first and second of the cases related by Dr. Türck, entirely prove the correctness of this assertion. In them, the spinal chord was apparently healthy, and of proper consistence ; but when examined with the microscope, was found to be the seat of disease.

Case i. The first case was that of a woman aged 73, who had had paralysis of the left side for six months. There was an apoplectic cyst on the outer side of the right corpus striatum and optic thalamus, with white softening of the latter ; and numerous granular corpuscles *(körnerkörperchen)* were met with as deep as the crus cerebri. The spinal chord appeared healthy to the naked eye ; but on dividing it into its lateral halves, it was found, under

the microscope, to contain a large number of sinular bodies. The left lateral half contained a large number, while they were much fewer on the right side: Dr. Türck then made fine vertical sections from without inwards ; and found that the most superficial sections on the left side showed the granular corpuscles in great number, while in a similar situation on the right side they were entirely absent, and only began to appear singly towards the middle line. From this examination, the interesting result was brought out, that the disease in the chord was limited to the same side as that on which the paralysis had existed—the opposite side to that on which the brain was diseased.

Case II. The second case was that of a man, forty years of age, who had laboured under paralysis of the right side for half a year. There was an apoplectic cyst in a similar situation to that mentioned in the first case ; the right thalamus had undergone white softening as deep as the crus cerebri, and presented an abundance of granular corpuscles. The pons Varolii, which was not examined in the first case, also contained them ; the medulla oblongata presented them in abundance on the right side, but more sparingly on the left ; and on the left side of the spinal chord they were very abundant, while they were wanting on the right. From the pons downwards, all the parts were of normal consistence, and appeared to the naked eye to be healthy, both entire and in section.

Remarks. Two explanations may be given of the origin of these bodies. They either arose from an extension of the disease from the crus cerebri downwards, or they were the effect of the hemiplegia, produced by disease of the brain, which induces a process of exudation in one half of the spinal chord. As to the first of these suppositions, it is difficult to understand why the extension of the disease should be confined to one side, and especially why it should not have extended to the opposite side at the point of decussation. With regard to the second explanation, it is to be observed, that in both cases there was a high degree of paralysis of motion, while sensation was but little affected : and hence, if this explanation be adopted, the exudation process would have to be considered as having a connexion with paralysis of the motor elements.

In several other cases of Hemiplegia, from cerebral diseases, the spinal chord has been found healthy.

Case III. The third case is one of a woman, forty years old, who had had Hemiplegia of the left side for a year and three quarters. The upper extremity was perfectly paralysed ; the lower one less so ; sensibility appeared normal. There was an old apoplectic cyst in the right corpus striatum and optic thalamus. Numerous granular corpuscles were observed, which rapidly decreased in proceeding downwards ; so that the right crus cerebri, the pons varolii, the medulla oblongata, and the upper sections of the left half of the cervical portion of the chord, only presented them singly. They were much more numerous from the origin of the third to that of the seventh cervical nerves. From this point downwards, they again decreased, but at the lower part of the dorsal portion again began to increase, until they reached their maximum at the origin of the lumbar nerves. From this point they again diminished, and at the origin of the lower sacral nerves they entirely disappeared. The nerves on the diseased side were found perfectly free from the corpuscles, even a few lines from their origin. The right half of the spinal chord presented them only in the middle line, the medulla oblongata only a very few: the left half of the pons, as well as the left crus cerebri, contained none.

The fact, that in this case the disease was not equally extended, the parts between the shoulder and hip-joints, as well as that between the brachial plexus and the encephalic cyst, shewing very few of the corpuscles, tends to point out, that the disease of the spinal chord cannot be considered as an extension of that which existed in the brain. [*Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien.* January 1850.]

EPILEPSY COINCIDENT WITH EXOSTOSIS OF THE LEFT PARIETAL BONE.

The following interesting case occurred in the practice of M. Gamberini, of Turin.

A banker, aged 34 years, had a fall on the left Parietal Bone, and subsequently felt frequent cephalalgia, followed by slight convulsive movements. Epilepsy soon supervened; the attacks of which became more and more severe and frequent. The patient had a sad countenance, his physiognomy was anxious and expressive of suffering, and his look dull and askance. He complained from time to time of an indescribable pain, preceding an epileptic attack. This sort of *aura*, which was often absent, commenced in some points of the upper limbs, and proceeded rapidly towards the heart. The attacks occurred twice or thrice in the week, sometimes even several times on the same day. Drastic purgatives, local bleeding, valerianate of quinine, artificial cinnabar, and nitrate of silver, were employed without any success. The patient then complained of a dull pain at the part of the parietal bone on which he had fallen. A periostosis was observed, which was only painful at night; and, as it increased in size, the epileptic attacks seemed to diminish in frequency and intensity. As the patient had had blennorrhagia some years previously, M. Gamberini thought that the periostosis might have had a syphilitic origin. He therefore ordered a blister to be applied to the swelling, and prescribed the iodide of potassium, internally and externally. Under this treatment, the periostosis diminished in size, and the attacks became at the same time less frequent, and more easy to master. The persistence of nocturnal cephalalgia caused M. Gamberini to decide on employing mercury: but he had scarcely commenced this, when the patient was seized with a severe attack of pneumonia. The energetic treatment which this affection called for, cured at the same time both the periostosis and the Epilepsy. When M. Gamberini last saw the patient, he had been free from attacks during three months. [*Bulletino delle Scienze mediche di Torino*, April 1848: and *Annales Médico-Psychologiques*, January 1850.]

In quoting this case, the editor of the *Annales* remarks, that the Exostosis is sufficiently explained by the fall on the parietal bone, without having recourse to the blennorrhagia. He further inquires, whether the favourable influence of the energetic treatment required for the pneumonia, does not tend to shew that the periostosis was, in fact, nothing more than simple sanguineous infiltration in the diploe, which first produced compression of the brain, and then epileptic convulsions?

SURGERY.

DR. R. W. SMITH ON DISJUNCTION OF THE EPIPHYSIS OF THE HUMERUS.

In the *Dublin Quarterly Journal of Medical Science* for February 1850, Dr. R. W. Smith has published an article on Disjunction of the Epiphysis of the Humerus—an accident which he considers to have been generally confounded with *supra-condyloid fractures* of the bone, or with luxation of the fore-arm backwards. The author points out, from the writings of Malgaigne, Vidal de Cassis, and others, the error into which they have fallen, as well as the incorrectness of the idea that the line of the junction of the epiphysis with the shaft is above the condyles; whereas these belong to the shaft of the bone, while the epiphysis comprises nothing but the capitulum and trochlea, Dr. Smith then proceeds to observe:

"The lower articular surface of the Humerus in the young skeleton differs from that of the adult bone in the following remarkable particular; namely, that the capitulum, or that portion which articulates with the head of the radius, is nearly double the size of the trochlea; so that the inferior surface of the former is nearly upon the same level as that of the latter process; and

the Humerus, when placed resting by its lower extremity upon a horizontal plane, assumes nearly a vertical position. In short, the radial is fully developed long before the ulnar portion of the epiphysis ; and, as will hereafter appear, the knowledge of this fact is not destitute of practical importance in the diagnosis of that embarrassing accident, fracture through the line of junction of the epiphysis with the shaft, or, in other words, fracture of the Humerus immediately *below* the condyles. A description of the signs which characterize this lesion must also be, to a certain extent, an enumeration of those which accompany dislocation of both bones of the fore-arm backwards ; many of the symptoms likewise belong to the transverse fracture, immediately *above* the condyles.

"The injury usually results from a fall upon the elbow, but I have known it to occur from a fall upon the palm of the hand, the fore-arm being at the time extended upon the arm. The limb immediately becomes powerless, severe pain is experienced in the elbow, and the following signs present themselves :—The fore-arm is flexed, and the hand in a middle position between supination and pronation. The olecranon, drawn upwards and backwards by the triceps muscle, mounts above the level of the condyles of the Humerus, these three processes forming the points of a triangle, the base of which is below. The antero-posterior diameter of the elbow is greatly increased, and the lower end of the Humerus can be felt projecting in front. The application of a gentle force is usually sufficient to restore the normal appearances of the limb, but when the parts are abandoned to themselves, the deformity soon recurs. If, after the removal of the displacement by extension, the fore-arm be rotated upon the Humerus, or if the surgeon, as recommended by Dupuytren, grasps the arm in one hand, and the fore-arm in the other, and then moves them backwards and forwards upon each other, the crepitus which characterizes fracture can generally be elicited. The motions of flexion and extension are exceedingly limited and painful.

"The signs above enumerated are sufficient to demonstrate, that the injury in question may readily be confounded with transverse fracture of the Humerus above the condyles, or with luxation of the fore-arm backwards. The former would be a mistake of comparatively slight importance, inasmuch as the same treatment is applicable to both lesions ; but the latter must be considered as a grievous error, the results of which are nearly as lamentable as those of leaving a true luxation of the joint unreduced. The observations of Dupuytren respecting the danger of confounding fracture immediately *above* the elbow, with dislocation backwards, apply with peculiar force to the injury we are considering. 'If', says this distinguished surgeon, 'the opinion that the case is one of luxation be acted upon, extension and counter-extension are employed, the reduction is accomplished without much difficulty, a roller is applied, and the surgeon congratulates himself upon the ease with which he has restored the bones to their places. But soon, the displacement is reproduced, and at the end of a few days, in the midst of the swelling, something unnatural is felt. This accident is generally ascribed to the patient, who is charged with being intractable ; the reduction is again effected, but the deformity soon recurs, and considerable swelling then supervenes. As long as this condition lasts, the surgeon continues secure ; but when the swelling has disappeared, after the lapse of a few weeks, he discovers the error which he has committed, but the mischief cannot now be repaired, the motions of the joint are never perfectly regained, and the deformity is incurable.'

"In cases of fracture traversing the line of the epiphysis, the transverse diameter of the tumour which projects in front, is equal to that of the opposite humerus, measured anteriorly from condyle to condyle ; in this respect, the accident resembles the dislocation of both bones backwards, but differs from fracture *above* the condyles. The outline of this osseous tumour is rounded, and presents to the feel none of the irregularities or sharpness of an

ordinary fracture, and upon its inferior surface, which is convex, and limited at either extremity by the condyles, neither trochlea nor capitulum can be distinguished. When the joint is viewed posteriorly, two osseous prominences are seen, and can be distinctly felt; they are both placed above and behind the plane of the condyles, but are themselves situated (if the patient be not more than six or eight years of age) nearly upon the same level,—the internal, however, being always a little higher up than the external. At a more advanced age, the distance between these two prominences is observed to be greater, in consequence of the increased development of the internal, which is formed by the olecranon, the summit of which process grows by an epiphysis. At no period of life, however, at which it is possible for the accident in question to happen, is the distance between the two projections nearly as great as it is always found to be between those which, in cases of luxation of both bones of the fore-arm backwards, constitute so marked a feature of the injury. In the latter accident, the distance averages about one inch and a half: while, in the former, it is seldom more than three quarters of an inch; the external tumour, in this case, being formed by the *capitulum of the Humerus*, still surmounting the head of the radius, for which, in consequence of the concave form of its superior surface, it is extremely liable to be mistaken, if attention be not paid to the diagnostic sign which has just been mentioned.

"For the history of the following case I am indebted to my friend, Dr. James S. Hughes, one of the surgeons of Jervis-street Hospital:

"Case. Michael Fleet, æt. 12, was admitted into Jervis-street Hospital on the 24th of August, 1847. He stated that whilst standing in the fruit market, a boy, running against him with great violence, threw him down; and that having, in the act of falling, stretched out his arm to save himself, the other boy fell with all his weight across the back of the extended limb. On his being raised from the ground, it was found that his arm was powerless, and he was at once brought to the hospital, where he was seen by Dr. Hughes, in twenty minutes after the occurrence of the accident, and consequently before the characteristic features of the injury had become obscured by swelling. The fore-arm was semiflexed, and the hand in the position of half supination; the olecranon, which formed a remarkable projection, was placed above and behind the condyles of the humerus. A second osseous tumour, the upper surface of which was concave, and which was supposed at first to be the head of the radius, could be distinguished behind the outer condyle. The lower extremity of the humerus formed a considerable prominence in front. Judging from these appearances, Dr. Hughes' first impression was, that he had to deal with a case of dislocation of both bones of the fore-arm backwards, but finding that the joint admitted of a much greater amount of flexion than can usually be communicated to it in such cases, he began to suspect the existence of a fracture. Extension was, therefore, made by an assistant, while Dr. Hughes, grasping the arm with one hand, and the fore-arm with the other, moved them in opposite directions, and thus succeeded in producing a distinct crepitus. The diagnosis was therefore made, that the injury consisted in a fracture of the humerus through the line of junction of the epiphysis with the shaft, with displacement of the bones of the fore-arm, *along with the epiphysis*, upwards and backwards.

"A moderate degree of extension and counter-extension was sufficient to remove the deformity; the limb was placed in the semiflexed position, and secured by angular splints and a roller. It was, however, found extremely difficult to prevent a recurrence of the deformity; and when the patient left the hospital, a slight degree of displacement still existed. Shortly after his dismissal I saw him, in consultation with Dr. Hughes and Dr. Power, and having made a very accurate examination of the limb, I came to the conclusion that the original injury had consisted in a simple Disjunction of the Epiphysis; for, although the deformity was now not considerable, the prin-

cipal characteristic features of this lesion, as they have been described in the preceding pages, could still be recognized. The boy had recovered very considerable use of the limb; he was able to extend the fore-arm perfectly, and could flex it beyond a right angle. The antero-posterior diameter of the joint was greater than that of the opposite side; the tendon of the triceps was in relief: the outline of the tumour which projected in front was rounded, but it was impossible to feel distinctly either the capitulum or the trochlea of the humerus. Two osseous tumours, formed by the olecranon and the capitulum, were seen posteriorly; but although they were still situated somewhat behind the plane, they were not now above the level of the condyles. The callus which had been effused, obscured, in some degree, the features of the injury. About this time, the patient was also seen by Mr. Adams, who adopted the same views as to the nature of the accident.

"From what has been above stated, it is manifest that (contrary to what the statement of authors would lead us to infer) implicit reliance is not to be placed upon the loss of the normal relation between the olecranon and the condyles of the humerus, as a means of distinguishing between luxation of the fore-arm backwards, and fracture of the lower extremity of the humerus. It is evident that there is an accident of the elbow, in which the bones of the fore-arm lose their natural relations to the condyles, and yet that accident is not necessarily a dislocation, but may be a fracture through the line of the lower Epiphysis of the Humerus, which line is situated *below* the condyles.

"It is a matter of practical advantage to be acquainted with the periods at which the different Epiphyses unite with the shafts of the bones to which they belong; for instance, the lower Epiphysis of the Humerus becomes identified with the shaft long before the superior: the separation of the latter by external violence, may, therefore, occur at a period of life when the disjunction of the former would be impossible.

"The symptoms which belong to this injury, in common with fracture above the condyles, may be thus briefly enumerated: shortening; crepitus; the removal of the deformity by extension, and its tendency to recur when the extending force is relaxed; the presence of an osseous tumour in front of the joint; the increase in the antero-posterior diameter of the elbow. It differs from the supra-condyloid fracture, in the greater transverse breadth and regular convex outline of the anterior tumour: in the existence of two tumours posteriorly; in the loss of the normal relation of the olecranon to the condyles.

"It resembles dislocation of both bones of the fore-arm backwards, in the following particulars: The transverse diameter of the anterior tumour is the same in each case; so also is the antero-posterior breadth of the elbow; and in both the olecranon ascends above the condyles, the limb is shortened, and two osseous prominences can be distinguished posteriorly. It differs, however, from luxation, in the existence of crepitus, in the tendency of the deformity to recur, in the anterior tumour being destitute of trochlea and capitulum, and in the circumstance of the two posterior tumours being nearly upon the same level".

OBSTETRICS.

UTERINE HYDATIDS—ANOMALOUS NERVOUS SYMPTOMS.

Dr. J. G. Davey, of the Ceylon Medical Service, has published in the *Indian Register of Medical Science*, and also as a separate pamphlet, an account of a case of Uterine Hydatids, which occurred to him at Colombo, in the end of 1847. The interest of the case lies in its exceptional character—in the peculiar nature of the nervous symptoms which accompanied it. These symptoms, in our opinion, must be attributed to idiosyncrasy, to constitutional peculiarity; and cannot be considered as unobserved indications of Hydatids.

Uterine Hydatids are generally connected in their origin with blighted

ova ; and the usual symptoms are those of moles, etc., more or less simulating pregnancy. The author judiciously enough remarks, that "however much the practical physician or surgeon may be inclined to refer to authority, ere he step out of the beaten track, yet unless he, occasionally, think and act for himself—and upon his own responsibility—the well-being, even the life of his patient, will prove the penalty of his indecision of purpose." It would be interesting to know, whether the lady, who was the subject of the case, has experienced any anomalous symptoms during pregnancy, if she have been in that condition.

The following is an abridgement of Dr. Davey's contribution.

Case. Mrs. T., aged about 24, a lady of sanguineous temperament, usually in the enjoyment of excellent health, and very recently married, applied to Dr. Davey, in November 1847, suffering from an unusual degree of the diseases of pregnancy, in the form of gastric irritation, uncontrollable by the use of saline effervescing draughts, hydrocyanic acid, creasote, opium, etc. The patient getting daily more exhausted, the induction of premature labour was proposed ; but, as a previous resort, nitrate of silver was applied to the os uteri and parts adjacent, and the same remedy was administered in the form of pills.

Premature labour was at last decided on ; and the os uteri was dilated by the introduction of a large male catheter ; this was repeated at the end of forty hours, after which uterine action set in, and in a day and a half produced a sudden and alarming expulsion of "waters", mixed with coagula, as Dr. Davey was informed.

The patient went on improving till the eighteenth or nineteenth day after the escape of the uterine contents, when Dr. Davey was informed that the size of the uterus had rather increased than diminished. The vaginal discharge had also assumed a sanguineous appearance. He considered that some portion of the ovum had been retained, after the first expulsion.

"On my next visit, after three days, I found all the symptoms much aggravated ; the size of the uterus had, very evidently, much increased. Mrs. T. complained of a painful sense of distension of the organ, as if were about to '*burst*'; and told me, moreover, that she was losing the use of her fingers, the extremities of which had become insensible to feeling. The voice was reduced to a mere whisper ; and the act of deglutition was performed with some difficulty. The repetition of the induction of uterine action was proposed, but was overruled.

"A week had hardly elapsed ere the case became so alarming, and all its symptoms so much aggravated, that further delay would have been only criminal. The uterine tumour had risen, by this time, to the umbilicus, and was exquisitely tender. The hands and feet, arms and legs, from the elbows and knees downwards, were completely *paralysed*—not a single fibre in any one muscle could be called into action. The extensors and flexors of both the thigh and upper arm were almost powerless. The nerves of sensation, although not absolutely paralysed, were much affected ; the extremities *felt*, for the most part, inflated and softened ; and now and then pricking pains were experienced in different parts of the limbs. Both respiration and deglutition were much impaired ; in consequence, doubtless, of the abstraction of nervous power from the muscles concerned in these respective acts.

"The dilatation of the os uteri was performed on two different occasions. Expulsive pains came on : and, after continuing very regularly for two or three and twenty hours, terminated in the evacuation of a large quantity of *Hydatids !* I was now led to hope that the parts affected would, in the course of time, re-acquire their normal condition ; nor did the progress of the case, immediately succeeding to the escape of the Hydatids, do else than encourage this hope ; for thirty hours had scarcely elapsed, ere the act of *deglutition* was unattended with the slightest difficulty or inconvenience.

It is worthy of remark, that from the third to about the tenth day, the lacteal secretion was continued.

"At the expiration of a week, the extensor and flexor muscles of the thigh and upper arm had regained considerable power; nor were the flexors and extensors of the fore-arm altogether useless; the digital extremities were capable of being very slightly moved. The lower extremities, although improved, and their motive power sensibly increasing, yet did not at this time keep pace with the upper. The nerves of sensation everywhere appeared recovering their natural tone, and the sense of touch was described as returning to its original and healthy state; at the same time, the slightest degree of pressure along the course of the radial and ulnar nerves, in either arm, caused much uneasiness and pain. Mrs. T.'s general health was steadily improving. A tonic regimen was pursued with apparent advantage. On the sixteenth day from the escape of the Hydatids, she was removed from her home to a more desirable locality; and quickly afterwards, the voice began to re-assume its original character—it lost the faint whisper which before characterized it.

"In order to facilitate the restoration of the functions of the spinal system, I now employed *galvanism*. Repeated shocks were thrown along the chord and extremities, and active friction of the parts affected was recommended. Stimulating liniments were also applied. This treatment was directly followed by an extreme restlessness and sleeplessness—the cerebro-spinal functions becoming much affected. Successive hours were passed in a kind of delirious excitation, and in an involuntary jactitation of the muscular system, particularly of the lower extremities; the latter was commonly accompanied with acute neuralgic pains. It is worthy of remark, that the fingers and toes were scarcely, if at all, affected by this peculiar and painful *chorea*. The galvanism was now omitted; and in its stead sedatives, particularly morphia, were prescribed, with a view of allaying the irritation of the brain and spinal chord; for there were no indications of anything like vascular repletion,—far from it. Blue pill and aperients were occasionally used to preserve a healthy state of the *primæ viæ*, and the carb. ferri with quinine were internally administered. The effects of this altered treatment were every way satisfactory, inasmuch as all cerebral excitement and incoherence ceased, and a proper amount of sleep was insured, the painful and involuntary muscular action was duly controlled, the tongue became cleaner and yet more healthy looking than before, the appetite improved, and the bowels were preserved in a proper state. The constitutional powers also appeared strengthened; but nevertheless much remained to be done towards the complete recovery of the spinal functions of the extremities: for although the *flexion* and *extension* of both the upper and fore-arm, and pronation and supination, were now little short of perfect, yet the deeply-seated muscles of the fore-arm, those attached to the phalanges, the flexors and extensors of the fingers, and those belonging to the thumbs, were capable of only very slight movements; and those of the lower extremities, particularly those muscles attached to the inferior phalanges, were in a similar condition."

At the end of between four and five months from the expulsion of the Hydatids, during two of which the patient had experienced some benefit from the change of air, Dr. Davey determined to *Mesmerise* her, with the view of restoring the muscular function. He is evidently one of those who imagines that "*post hoc, ergo propter hoc*"; for he attributes the recovery which took place to the Mesmeric passes which he made. As in many other cases, faith in the potency of the means employed was probably of great service. On the day after the fourth Mesmerism, the patient found that she could nearly raise one of her hands. In December 1848, only a slight degree of stiffness remained in the fingers, when much exercised with music; and one of the ankles was slightly weak. The general health was perfect.

RUPTURE OF A THROMBUS OF THE VULVA DURING PARTURITION: FATAL HÆMORRHAGE.

The occurrence of Thrombus of the Vulva during labour is not absolutely rare: but it is very uncommon to see it arise and burst in a few moments, inducing almost instantaneous death by frightful Hæmorrhage. Peu is the first who has reported a case of this kind. Deneux has, with some trouble, been able to collect some others. The following case, related by M. Wyffels, in the *Annales de la Société d'Emulation de la Flandre Occidentale*, is hence interesting:—

Case. On the night of the 6th September, I was called to a woman who had been a few hours in labour. She was robust, of sanguine temperament, possessed considerable *embonpoint*, and enjoyed perfect health: she had had eight children, all the labours having been easy. During, however, the last weeks of the present pregnancy, walking had become very painful, and the lower extremities were very œdematous. On examination, I found the os uteri well dilated, the membranes entire, and the head of the child not yet descended. The uterine contractions being powerful, and the position of the child good, I prognosticated a prompt delivery. My surprise was great, when, after some well-marked pains, I perceived the *labium majus* of the right side become suddenly distended, rapidly increase in size, and become, in a few instants, tense and fluctuating. At first, I imagined it was a hernia: but soon afterwards the tumour, which had gone on increasing in size, in spite of manual compression, so as to attain the size of a closed fist, burst, during a pain, with such violence, that the blood was projected to the distance of several feet. Believing this to be a very serious case, I sent in haste for my forceps, which I had neglected to bring, in consequence of the facility of the former labours. In the meantime, blackish venous blood continued to flow from the aperture, which was in the external and middle part of the *labium majus*, and was of sufficient size to easily admit the thumb. During uterine contraction, the blood was thrown out in jets, but did not flow with intensity in the intervals. From this moment, and after several pains, the woman began to complain of suffocation, and at last said she was going to die for want of air. In a few minutes she died. In three quarters of an hour my forceps were brought, with which I extracted a dead child.

M. Wyffels does not think the woman died of Hæmorrhage, although it was abundant, but prefers to attribute the death to *the absorption of air, or its introduction into the veins*. It seems rather to have arisen from the Hæmorrhage having been left to itself, without any attempt to arrest it by compression or plugging: the Hæmorrhage might not have been easy to arrest. Osiander reports a case which, in spite of all his efforts, even after labour was terminated, ended fatally; but perhaps this case is unique. In that of Peu, and in some others, death only occurred in the absence of the accoucheur, or because he had been called too late. In general, the accomplishment of parturition is sufficient to arrest Hæmorrhage: sometimes it is advantageous to use astringent injection, and it seems scarcely probable that compression and plugging can fail. [*Revue Médico-Chirurgicale de Paris.* December 1849.]

RETENTION OF URINE AFTER DELIVERY: EXTRAORDINARY DISTENSION OF THE BLADDER: PECULIAR CONFORMATION OF THE URETHRA.

M. Malgaigne relates the following case in the *Revue Médico-Chirurgicale de Paris*, for December 1849:—

In contradistinction to the accumulation of an enormous quantity of urine in the bladder for several weeks, the following case presents an instance of rapid accumulation to an unprecedented extent:—

On the 16th August, I was called, by my friend M. Drache, to a woman who

had been delivered four days, but had passed no urine. The midwife had several times attempted, but without success, to introduce the catheter. M. Drache also made the attempt, but found an obstacle some lines from the orifice of the urethra, and he was unwilling to use force. On my arrival, the abdomen was so distended, and so much resembled that of a woman at the full period of pregnancy, that my first thought was, to make sure that there was not another child. On this subject, however, there could be no doubt; besides, the patient had not passed urine for four days, and was suffering intense desire for micturition. I learned that she had never had any disease affecting the urethra. But her husband informed me, that in her the stream of urine, instead of being directed downwards and forwards, passed forwards and upwards; and that her eldest daughter had the same peculiarity.

From this I concluded, that the urethra mounted higher than usual behind the symphysis pubis, and that the ossa pubis presented the obstacle to the passage of the catheter. Having placed the woman in front of her bed, I introduced an ordinary catheter, by first passing it from below upwards, then directing it upwards and backwards. I assured myself that there was not the least trace of prolapsus of the bladder or urethra. The bladder was emptied at once, without inconvenience or difficulty; the quantity was truly astonishing. I had it weighed immediately: it was 3,300 grammes (nearly 107 ounces, English apothecaries' weight). I have often had to treat severe cases of Retention of Urine, even requiring puncture; but I have never before known the bladder to contain such a quantity of urine.

CONDITION OF THE OVARIES AND UTERUS, OBSERVED IN A YOUNG WOMAN ASSASSINATED SHORTLY AFTER MENSTRUATION.

The researches of MM. Pouchet, Bischoff, and others, have placed beyond a doubt the spontaneous detachment of ovula during menstruation. The following case, recorded by Dr. Janzer, in the *Medicinische Annalen*, vol. xiii, part 4, is an additional proof; it moreover illustrates the changes which the mucous membrane of the uterus undergoes during the menstrual period.

Case. The young girl who was the subject of the observation, had menstruated four days before being murdered. She had never been pregnant. The autopsy was made sixteen hours after death. The surface of the left Ovary presented a deep red spot, surrounded by finely injected vessels. This spot was formed by a small globular mass, imbedded in the Ovary, and of an intense red through its whole thickness. The mass in question was separated from the tissue of the Ovary by a thin yellow envelope, and was composed of fibres like those of areolar tissue, arranged in superimposed layers. The yellow envelope was formed by the same kind of fibres, among which there was a pretty considerable quantity of fat, not contained in cells. Near this body, there was seen a small yellow, spherical, modulated mass, composed of areolar tissue and fat. The right Ovary contained two yellow bodies. The Fallopian tubes, which did not embrace the Ovaries, were tumefied in the upper thirds. On slight pressure, a white matter issued from them, resembling pus, and entirely composed of round epithelial cells, some of which were furnished with vibratile cilia. No ovule, nor any traces of spermatozoa were found.

The uterine mucous membrane, between the body and the neck, was much swollen. In the Uterus itself, it formed a velvety membrane, glossy and brilliant, easily detached with the handle of the scalpel, and presenting a fine network of vessels. This mucous membrane was evidently thickened; it was composed of the uterine glands, ranged perpendicularly alongside each other, and fitted with cylinder epithelium, not ciliated. The structure between the uterine glands was composed of a network of delicate fibres, of some nucleated cellular fibres, and of amorphous tissue. The surface of the uterus was covered with a thin layer of mucus, and lined with cylindrical epithelium,

without cilia. The orifices of the Fallopian tubes were open. The vaginal mucous membrane was pale, but was only covered with a thin layer of mucus, containing epithelial cells.

It results from this observation, that the mucous membrane of the uterus presents, during menstruation, characters analogous to those which exist during gestation; such as the hypertrophy of the uterine follicles, and the disappearance of vibratile cilia. [*Gazette Médicale de Paris*, 23rd March, 1850.]

TOXICOLOGY.

CASE ILLUSTRATIVE OF THE TREATMENT AND FATAL DOSE, IN POISONING WITH HYDROCYANIC ACID.

By Dr. Robert Christison, of Edinburgh.

The following is one of the most interesting and instructive cases of Poisoning by Hydrocyanic Acid, with which we are acquainted. We copy, with some slight verbal curtailments, Dr. Christison's communication from the *Edinburgh Monthly Journal*, for February 1850.

A gentleman, about sixty years of age, whose mind had begun to give way under the pressure of dissipation and misfortune, and who had several times threatened to commit suicide, hastily summoned his wife one evening, told her he had just taken Prussic Acid to put an end to his miseries, and immediately fell down senseless on a sofa, without either cry or convulsion, but drawing his breath deeply, forcibly, and slowly. Medical aid was instantly sent for in all directions. Nearly half an hour appeared to have elapsed before I reached him. Dr. Adam Hunter and Mr. Carmichael had arrived, however; the stomach-pump had been immediately resorted to; and the first stroke of the pump was made as I entered the room.

The convulsive respiration at the outset had been soon succeeded by regular breathing, with snorting inspiration, and moaning expiration. The insensibility was complete from the first; the body was excessively relaxed, and without any convulsive movement; the eyes were wide open, staring straight forward upon vacancy, injected, watery, and with the pupils somewhat contracted, but not more so than they often are naturally in persons of his age; and the face and head were congested and hot. The introduction of the tube of the stomach-pump did not elicit the slightest sign of consciousness. In this state I found him on my arrival—wholly unconscious under all ordinary mechanical stimulation, totally relaxed and powerless, and breathing deeply, laboriously, and stertorously, but with ordinary frequency. The pulse was above 100, very small, feeble, yet regular.

The first liquid withdrawn by the stomach-pump, amounting to six ounces, was a colourless, nearly clear, watery fluid, being little else than water introduced by the pump upon an empty stomach; for he had taken no food since breakfast. My two friends could not observe any odour of Hydrocyanic Acid in this fluid, even while warm and fresh drawn; and I could detect it only faintly, and, I must admit, equivocally, on whiffing it slowly and steadily for some seconds. Nor was there any Hydrocyanic Acid odour in his breath, or near him, or in any part of the room.

The stomach was quickly and repeatedly cleared out, and ammonia was applied to the nostrils from time to time, but without any sign of reviving consciousness. His head was then brought to the edge of the sofa, and, while it was held over a bucket, a stream of cold water was gently and steadily poured over it for two minutes from a large jug, a foot or so above him. During this proceeding, the breathing rapidly became deeper and softer, and without snoring. The head and face, very much cooled, presented less turgescence. The eyes were suddenly turned in a lateral direction, and then an attempt seemed to be made to fix them upon any one who put a question in a firm voice. From this time he slowly recovered without any further treatment; and, in an hour and a half from the time when he gave

the alarm, he was able to mutter Yes and No correctly when questioned, and he could turn on his side without assistance. When not roused, however, by being spoken to, he fell into a restless sopor, with moaning and tendency to shivering. In three hours he was tolerably sensible, but drowsy: he slept profoundly all the subsequent night; and next morning he was quite sensible, though still sleepy. His mind was evidently unhinged, but not more than before the act; and it has continued more or less so ever since, rendering seclusion from general society indispensable.

As, in this instance, no bottle could be found in the room or under the window, and no satisfactory Hydrocyanic odour could be perceived in the apartment, in the breath, or in the fluid first withdrawn from the stomach, a doubt might justly have arisen whether Hydrocyanic Acid had been really swallowed. The symptoms, however, were so similar to those described as attending the slower cases of poisoning with this substance, as to leave at the time scarcely any doubt in my mind. Accordingly, on examining the liquid first withdrawn, I detected the poison in it by chemical analysis. It was first subjected to distillation, after the addition of a few drops of sulphuric acid; and half an ounce of clear fluid was thus drawn off. This had only a very doubtful Hydrocyanic odour, although there was no other odour strong enough to cover it. But on adding two drops of the pharmaceutic solution of potash, then a few drops of the two sulphates of iron, mixed in the proportion of one equivalent of sesqui-oxide-sulphate and two of protoxide sulphate, and lastly a single drop of sulphuric acid, a considerable precipitate of Prussian blue was obtained instantly and characteristically. Meanwhile the patient gradually admitted, that he had asked, in the morning of the act, at a certain druggist's, for a sufficient dose of Prussic Acid, of full strength, to kill a dog, and that he got a drachm. The druggist afterwards supplied Dr. Hunter with what he believed to be a similar quantity from the same stock. This I found to amount to forty-five minims: and, on applying the very convenient test of the *Edinburgh Pharmacopœia*,[1] I ascertained that it was of the due strength, so that our patient had taken between a grain and a half and two grains of radical Hydrocyanic Acid.

The Practical Deductions to be drawn from this case are various and not unimportant.

1. The intensity of the symptoms, while there still remained some poison unabsorbed in the stomach, renders it probable that the treatment saved the patient; and, therefore also probable, that a grain and a half might prove fatal in less favourable circumstances.

2. That the odour may not be detected in the breath, even in the first fluid drawn from the stomach.

3. A piercing cry does not invariably usher in the action of a poisonous dose of Hydrocyanic Acid.[2]

4. The case shows that the cold douche to the head is an energetic remedy, when the other means available in so urgent an emergency are inefficacious.

MATERIA MEDICA AND PHARMACY.

ALMOND OIL AS A SUBSTITUTE FOR COD-LIVER OIL.

Dr. P. M. Duncan, Physician to the Essex and Colchester Hospital, and Mr. R. S. Nunn, Surgeon to the same Institution, have communicated to the *Provincial Medical and Surgical Journal* for March 20, the following remarks

[1] The test referred to is the precipitation of a cyanide of silver, by means of a solution of the nitrate. Editor.

[2] Both in men and animals, a piercing cry has been generally observed to usher in death by Prussic Acid, and the recorded exceptions to this rule are, we will venture to say, very few indeed. It must be remembered, that the case detailed in the text is *not one of fatal poisoning*, and that this fact, and the smallness of the dose, make it difficult to believe that the toxicological phenomena were developed in all their completeness. Editor.

on the applicability of the common sweet Almond Oil to all cases for which Cod-liver Oil is prescribed.

"In a flat and damp agricultural district, where, amongst a certain class, intermarriage is very frequent,—where intermittent fevers, scrofula, and all kinds of disease characterised by the presence of an adventitious product in the system, are very common, and where, on account of scanty food and clothing, diseases are generally of an adynamic type, it is not to be wondered at, that medicines which enhance the nutritive powers should be very largely prescribed.

"We have always subscribed to that opinion, which denies the specific agency of the Oleum Jecoris Aselli, in tuberculous and like diseases, and attributes the benefit conferred to its influence on the assimilative processes. We have prescribed the Cod's-liver Oil with great success, both in hospital and in general practice, and consider that its only drawbacks are its nauseous flavour and high price. In June last, we agreed to prescribe a vegetable oil instead of the Oleum Jecoris; and our experience is highly favourable to the therapeutical virtues of the Oleum Amygdalæ. We have reason to declare that the Almond Oil and the Cod's-liver Oil act precisely in the same manner; and the first-mentioned oil has anything but a disagreeable taste, and can be obtained for at least one-third of the price of the best Cod's-liver Oil. Our experience of the beneficial effects of Almond Oil has been derived from upwards of two hundred and fifty well observed cases; in no one case has it purged, and the contrary effect is very frequently produced. We are in the habit of prescribing the oil without any adjunct, at first in one drachm doses, half an hour after every meal. The dose is gradually increased. A drop of Eau-de-Cologne, or of some essential oil, renders the 'neat' oil anything but disagreeable to the taste. It is an excellent vehicle for the exhibition of iodine in small doses, the latter being rubbed down with a small quantity of olive oil, and then added to a larger amount of Almond Oil. The following formula has been of great use in several cases of syphilitic diseases of the bones and skin, in broken-down constitutions, in chronic pleurisy, and in many cases of chronic enlargement of the glands of the neck:—R. Olei amygdalæ ʒ ss; olei olivæ ʒij; iodinii gr. ¼. M. A third part to be taken three times a day.

"The influence of half an ounce of this Oil of Almonds, taken daily, upon the weight of some patients progressing in health under its exhibition, is very remarkable. In one case, there was a weekly increase of 2lbs., and in another, of 4lbs. Care must be taken to attend to the biliary secretion during the exhibition of the oil, which is contraindicated when there are evidences of local congestion, or of inflammation."

MINERAL SPRINGS CONTAINING MANGANESE.

In the London Journal of Medicine for 1849, pp. 871 and 881, we gave an abstract of the researches of M. Hannon on the Therapeutic uses of Manganese, a remedy which he considered equal, and often superior, to iron. The Academy of Medicine in Paris, as stated in the *Gazette Médicale de Paris* for 23rd March, received from M. Caventou, reporter of their Committee on Mineral Waters, a statement that the waters of Fraisse, in the valley of Cransac, contain Manganese. It would be desirable to study the physiological and therapeutical properties of these springs. The Editor of the *Gazette Médicale* has several times witnessed their successful use in chronic glandular engorgements, which had previously been treated by various medicines without any good results.

CITRATE OF IRON AND MAGNESIA.

The Citrate of Iron and Magnesia appears, to M. Van der Corput, likely to come into general use among ferruginous preparations, being easy of administration, and not liable to produce constipation. It is prepared by dissolving

two parts, by weight, of recently precipitated hydrated oxide of iron in a solution of three parts of citric acid: the liquor is then saturated with Carbonate of Magnesia, and evaporated to dryness. The salt is in the form of shining brown scales; the taste is sweetish, very slightly inky, and not at all disagreeable. It is perfectly soluble in water: it is not deliquescent, so that it may be given in the form of powder. It may be prescribed in doses of 15, 30, or 60 centigrammes (2½, 5, or 10 grains).

Syrup of Citrate of Iron and Magnesia is prepared by dissolving 8 grammes in 15 grammes of orange-flower water, with 180 grammes of simple syrup. This is one of the most agreeable preparations of Iron.

Saccharine Confection of Citrate of Iron and Magnesia.

Take of Citrate of Iron and Magnesia ... ... 1 drachm
Powdered Sugar ... ... 7½ "
Powder of Canella ... ... 1 "

Mix, and divide into powders, each containing twelve grains.

Lozenges of Citrate of Iron and Magnesia.

Take of Citrate of Iron and Magnesia ... ... ½ a drachm
Powdered Sugar ... ... 7½ drachms
Saccharine Confection of Vanilla ... ... ½ a drachm
Mucilage of Tragacanth, a sufficient quantity.

Mix, and divide into lozenges of twelve grains. [*Journal des Connaissances Médico-Chirurgicales*, 1st March 1850.]

ALKALI OBTAINED FROM THE KHAYA SENEGALENSIS (SWIETENIA SENEGALENSIS) A CHEAP SUBSTITUTE FOR QUININE.

M. Caventou has obtained an Alkali from the above-named tree, which he thus describes. It is non-crystalline, solid, opaque, of resinous aspect, yellow, very bitter, slightly aromatic, and easily soluble in water. If this salt possess the powerful anti-periodic properties of the bark from which it is derived, it must become a valuable article of the *materia medica*, as the price of Quinine (from the alleged scarcity of the cinchona bark) is becoming dearer every year. According to M. Servant, the inhabitants of Senegal cure the worst cases of intermittent fever by a watery decoction of the bark of the Khaya. [*Journal de Pharmacie et de Chimie*, Nov. 1849.]

MISCELLANEOUS INTELLIGENCE.

Meeting of the Graduates of the University of London. A large and influential meeting of the Graduates of the University of London was held on Tuesday, 26th February, at the Freemasons' Tavern. The chair was occupied by Dr. Sibson, F.R.S., who, in his introductory remarks, forcibly alluded to the anomalous position in which the University at present stands; its degrees being of great intrinsic value, as obtained at the price of a large amount of knowledge and intellect, and yet being unappreciated by the world at large. The obscure situation of the University, which sometimes did not possess sufficient room for holding the examinations, and the non-participation by the graduates in its government, were alluded to as the great reasons for the indefinite position of the Institution. The admission to a share in the government was referred to by Dr Sibson, as being desired by the graduates, and as being an object worthy of attainment. Several resolutions were passed, but the following declaration, the adoption of which formed the second resolution, expresses the objects which the graduates have in view. "That one great principle recognized by the Government on the foundation of the University of London, was to accord to the new University 'an equality in all respects, with the ancient Universities, freed from exclusions and religious distinctions.' That, according to the present constitution of the University of London, the Senate forms the corporate body, and not only administers all

its affairs, but has practically a large power of altering its constitution by petitioning for and accepting such new charters as Her Majesty may be pleased to grant. That the members of the Senate not being connected with the University by education, have a less direct personal interest in its prosperity than those dependent on it for their academic rank. That the Graduates are the persons chiefly interested in the welfare and honourable reputation of the University, yet have no corporate existence, and are not admitted to any voice in University affairs. That while the undersigned acknowledge, with gratitude, the services rendered to the University by its founders and present authorities, and admit that some constitution like the present was necessary at its outset, they are convinced, that such a constitution was not intended to endure beyond the time, when the number of the Graduates would afford the materials for establishing the University upon a wider and more permanent basis. That the undersigned are of opinion that the lapse of further time will not tend to secure a more efficient assembly of Graduates, as every year is, in their present unorganised state, loosening the connexion between the holders of degrees, weakening their interest in the University, and lessening their knowledge of its affairs. That, as the number of the Graduates now amount to 546, and the number of the undergraduates to 802, including 112 who have passed the first examination for the degree of Bachelor of Medicine, the undersigned consider that the time has now come, when they may justly claim to be no longer excluded from the body corporate of the University. That the fact that the Graduates do not possess any power or collective voice in the University, tends to impair the value of their degrees, and to lower their social standing as compared with that of the Graduates of other English Universities; and that a change of constitution in this respect is likely to secure for their degrees a higher and more widely-spread reputation. That the simple admission to the present Senate, of individual Graduates, is not, in the opinion of the undersigned, calculated to secure all the advantages which would result in investing the Graduates with corporate powers."

The "Samuel Cooper" Testimonial. The commission for executing a marble bust of the late distinguished and highly respected surgeon, Mr. Samuel Cooper, has been entrusted to Mr. Butler, the eminent sculptor. The working-model, from which the bust is to be executed, is highly creditable to the artist, and forcibly brings to mind the great and good qualities for which Mr. Cooper was conspicuous. The place of deposit of the bust will not be decided on until it is completed; but we believe that its destination will be the Royal College of Surgeons. The committee intend (if the funds allow) to present a reduced copy of the bust, in Parian, to each subscriber of one guinea and upwards. The Honorary Treasurer (Mr. W. A. Hillman, 1, Argyll Street), and the Honorary Secretary (Dr. Wood, Bethlem Hospital), still continue to receive subscriptions from those who are desirous of expressing their respect for the memory of one of the brightest ornaments of British Surgery.

The "Liston" Testimonial. A meeting of the subscribers to the fund for erecting a memorial to the late Mr. Liston, was held on the 8th March, in Old Burlington-street. The Marquis of Anglesey presided. The Honorary Secretary, Mr. George, read the Report, from which it appeared that the sum subscribed towards the object in view, amounted to only 750*l.*, which sum was insufficient for the erection of a statue, as originally intended; that it was therefore proposed that four marble busts of Mr. Liston should be executed—one to be placed in the Royal College of Surgeons, another in University College, London, a third in the Royal Infirmary at Edinburgh, and a fourth to be presented to the family of the deceased; and that the residue of the money should go to pay for a gold medal, to be awarded annually by the Council of University College, London, to the best proficient in surgery. The

Report, and a resolution in accordance with it, were carried unanimously, and a committee to carry out the intention of the meeting, consisting of the Dukes of Beaufort and Buccleuch, the Marquis of Anglesey, Lord Kinnaird, and Count D'Orsay, formed; after which, thanks were voted to the Chairman, and the business terminated. [*Lancet*, March 9.]

New Hospital for Diseases of the Chest.—The Commissioners of Woods and Forests have granted a piece of ground near the Victoria Park for a new Hospital for Diseases of the Chest.

Legal Action for Defamation of Character brought by a Homœopathist.—An action was tried before the Bailiff and Jurats of the Royal Court of Guernsey, on the 9th March, in which John Ozanne, Esq., a gentleman practising homœopathy, was plaintiff, and De Beauvoir De Lisle, Esq., surgeon, defendant. The action set forth, that on the 24th of August, 1849, in the presence of a patient and other persons, Mr. De Lisle declared to Mr. Ozanne that he was "no professional man, an impostor, a quack, nothing but an impostor";—the whole being of a tendency to injure Mr. Ozanne in his profession as a medical practitioner, and being without any provocation on his part. The case was opened by the Queen's Comptroller, who presented an Act of the Court, dated March 1840, authorising Mr. Ozanne, who had obtained his diploma from the University of Paris, to practise medicine in that island. The authenticity of the Parisian diploma being disputed by the Queen's Procureur delegate, for the defence, the Court certified the validity of the objection. In the course of the trial, which occupied five hours, evidence was adduced to prove that Mr. Ozanne practised homœopathy; that Mr. De Lisle had refused to consult with him; and Drs. Magrath, Hoskins, Collenette, and other practitioners, severally denounced homœopathy as a system of quackery. The Queen's Procureur delegate, in the defence, cited numerous authorities, British and Foreign, who had expressed their strong disapprobation of the homœopathic system. The Bailiff, in summing up, said—"That by the Act of Court, Mr. Ozanne was authorised to practise his profession in the island. The words in the indictment imputed to Mr. De Lisle, had been proved by the evidence of witnesses; but it had not been proved that Mr. Ozanne was a quack. Many witnesses had been heard, and a heap of books had been produced which did not bear upon the case, although both were unanimous in sentiment that homœopathy is an imposture. But that was not the question for the Court to settle, inasmuch as that would be to decide without the required evidence. If Mr. De Lisle had satisfied himself with attacking homœopathy as a system of imposture, without descending to personalities, he could not have been cited before the Court; but when one individual told another who is practising that system, "you are an impostor", it was necessary that he should prove that he is such. But no such proof had been tendered. Looking at the position of the parties, it was necessary to inquire whether any provocation had been given? The words were uttered in answer to a question from Mr. Ozanne. He did not think there was provocation to justify the words used, inasmuch as they followed in the course of conversation. An opinion prevails among the faculty that homœopathy is a quackery, but when a person takes upon himself to prefer a charge against those who adopt that system, he takes upon himself the responsibility of proving his own words."—The Jurats were unanimous in declaring, that the Act of Court sufficiently established the quality of physician taken by Mr. Ozanne in his action. They also considered that Mr. De Lisle's words were not justified, but were used without premeditation; that Mr. Ozanne's conduct had been moderate and forbearing, and concluded by sentencing Mr. De Lisle to pay 5*l.* damages to the plaintiff, an *écu* (2*s.* 6*d.*) to the Queen, and costs. The method adopted by Mr. De Lisle for expressing his opinion of homœopathy was incautious. The course adopted by Dr. Williams, as described in the next paragraph, was milder, and at least equally efficacious.

CORRESPONDENCE BETWEEN DR. C. J. B. WILLIAMS AND A HOMŒOPATHIC PRACTITIONER. The *Lancet* of March 23rd, contains the following correspondence.

THE LETTER.

"—— Street, Friday, 22nd February, 1850.

"DEAR SIR,—I am very desirous of having your opinion in a case of suspected disease of the heart. The patient is the Hon. Mrs. ——, at present residing with Lady ——, —— Square. Will you have the goodness to inform me at what hour on Monday it would be convenient for you to see Mrs. ——?

"I think it right to state that Mrs. —— has been for many years a convert to homœopathy, and that I, as you possibly may have heard, practise that system of treatment. I mention this, because you may have some objection to meet a homœopathic physician in consultation, and I should much regret if I were the means of inducing you to do anything distasteful to you in ignorance of the above facts. I may, however, mention that it is as a matter of diagnosis rather than of treatment that your opinion is desired, and that my friends, Sir — —— and Dr. ——, have seen the case with me on former occasions. I remain, dear Sir, your very obedient servant,

"To Charles J. B. Williams, Esq. M.D. etc." "———."

THE REPLY.

"7, Holles Street, Cavendish Square, Feb 33, 1850.

"DEAR SIR,—I am obliged to you for your courtesy in wishing to have my opinion on the diagnosis of the case of the Hon. Mrs. ——, and for your candour in apprising me that she is under homœopathic treatment; but under these circumstances I must beg you to excuse my attendance.

"Believing, as I firmly do, that the so-called "homœopathic system" is an entire fallacy, and therefore calculated to do much injury to those on whom it is practised, I consider it *to be my duty to do nothing that can, directly or indirectly, countenance or aid it;* and it appears to me, that to meet a homœopathic physician in consultation, and to assist in the diagnosis of a case professedly under homœopathic treatment, would have such an effect.

"I need scarcely add, that I have no personal feelings in the matter. And hoping that you will soon return to the legitimate domain of rational medicine, "I remain, dear Sir, yours faithfully,

"To Dr. ——. "C. J. B WILLIAMS."

DR. WILLIAMS' conduct in this case is most honourable and worthy of imitation: but the adoption of any other course by a leading physician, would have been a heavy blow and a great discouragement to the practitioners of legitimate medicine. Minor men may (for their guinea bribes) be allowed to dally with "entire fallacies", but the consulting physician, who meets a homeopath, a hydropath, a chrons-thermalist, or any charlatan, must be carefully repudiated by the profession. We wish this hint to be acted upon: a laxity prevails.

FRAUD IN OBTAINING A DIPLOMA FROM THE COLLEGE OF SURGEONS OF EDINBURGH.—The following account of a trial, which took place at Edinburgh on the 9th March, before the High Court of Justiciary, we abridge from the *Caledonian Mercury:*—William Duncan, Amble, Northumberlandshire, and Alexander Cumming, surgeon and druggist, Broughton Street, Edinburgh, were then placed at the bar, charged with forgery; as also using and uttering as genuine a false and forged writing; as also falsehood, fraud, and wilful imposition; as also conspiracy to commit the said crimes; in so far as in October, November, or December 1844, they entered into a conspiracy to procure a diploma from the Royal College of Surgeons of Edinburgh to enable the aforesaid William Duncan to practise surgery and pharmacy without his actually appearing before the examinators appointed by the College to take the candidates for diplomas upon trial, by means of Cumming personating Duncan, and undergoing the necessary examination. In furtherance of this design, Cumming obtained from the Conservator of the

College a printed form of a schedule required to be filled up and properly attested by the candidate, exhibiting the full extent of his professional education, which he falsely and fraudulently filled up, and appended to it the signature of "William Duncan", and thereafter delivered it to the President of the College, pretending that he was the person whose signature was attached to the document. Cumming afterwards attended and passed the usual examination appointed by the College, on the 4th December 1844, and by representing that he was the William Duncan represented in the certificate, he obtained a diploma in Duncan's name, qualifying him to practise surgery and pharmacy, which he immediately delivered to Duncan, to be used by him as a diploma in his favour, and which was accepted by Duncan for this purpose. The parties were apprehended about the beginning of January last. Both prisoners pleaded not guilty.

The Lord Justice Clerk, after hearing an argument by Counsel, stated that from the manner in which the charge was stated in the indictment, the Court were under the necessity of directing the acquittal of Duncan. The indictment set forth that Duncan and Cumming, in carrying out their conspiracy, were both in Edinburgh, but no evidence had been adduced to show that this had been the case in regard to Duncan. The Solicitor-General then addressed the Jury for the prosecution, and was followed by Mr. Logan for the prisoner Cumming; after which the Lord Justice Clerk summed up. The Jury, without retiring, delivered a verdict finding Duncan not guilty, in respect that the Court had directed that the facts proved did not support the charges set forth in the indictment, and finding Cumming guilty of all the charges as libelled. Cumming was then sentenced to one year's imprisonment. Duncan was dismissed from the bar.

Quack Pill-makers seem to be as little Protected by Law as regular Physicians and Surgeons! Such an announcement may surprise our readers: but it seems to be true. In an action lately tried at the Northern Circuit, before Mr. Baron Alderson, in which a druggist named Kirkus was plaintiff, and another named Atkinson was defendant, the action was to recover damages for manufacturing and selling pills called "Torr's Family Pills". The plaintiff married the daughter of Torr, and thus came into possession of the recipe. He sold the pills under the title of Torr's Family Pills, manufactured by Kirkus. The defendant succeeded to Torr's business, and he sold the pills also, but as Torr's Family Pills, manufactured by Atkinson. The labels were the same in both instances. The counsel for the defence contended that, so long as the defendant did not profess to sell Torr's Pills, as manufactured by Kirkus, he had a right to manufacture and sell Torr's Pills, as manufactured for himself. The judge charged for the defendant, who obtained the verdict. Thus, then, the right to a patent or quack medicine may be defeated by the person making it merely adding to the label, "as manufactured by ——!"

Remuneration of Medical Men when Summoned to give Evidence at Quarter Sessions. In a case of action for assault (Dillon *v.* Reedy), tried before the Assistant-Barrister, W. E. Major, Esq., at the Kilrush Quarter Session for January, Dr. Foley of Kilrush was summoned by the plaintiff, to testify to injury received. On being called upon to be sworn, he applied to the barrister for an order for remuneration for loss of time, and stated that he had been frequently examined in the Superior Courts, as well civil as criminal; that in every instance the Judges awarded compensation for loss of time, and hoped his worship would extend the same protection to him. The barrister replied, that the claim was a fair one; that his time was as much lost to him there as at the assize or at any other court, and he would award to him the same remuneration as the Judges were in the habit of doing. He called on the plaintiff's attorney, Mr. Mat. Kenny, to pay the witness. Mr. Kenny asked the witness, what payment he required? The reply was, "At

least a guinea." The fee was refused. Dr. Foley told the Court, that his object was to assert a principle. It was now established; thanks to his worship for the willingness and readiness he evinced to protect professional rights, and left the Court without being sworn.

Testimonial to William Bush, Esq. A very handsome silver library inkstand has been presented to the above gentleman, bearing the following inscription:—"Presented to William Bush, Esq., one of the medical officers of the Bath Union, by 456 contributors, consisting chiefly of the poor of Weston, with whom the subscription originated, in grateful testimony of the kindness, skill, and unwearied attention, with which he devoted himself to the service of the sick in that parish, during the prevalence of cholera in the year 1849". The idea of presenting a testimonial to Mr. Bush, emanated, in this instance, from the poor, many of whom experienced his valuable and zealous attention during the time of the late epidemic; but the subscription was by no means confined to this class.

Hospital for Sick Children.—Dr. West, Dr. G. Burrows, Dr. Robert Ferguson, Dr. Bence Jones, and Dr. Latham, with the assistance of others, are zealously endeavouring to accomplish the establishment of a Hospital to contain 100 beds for sick children, between the ages of two and twelve. Such an institution is much wanted as a Clinical School, though but little comparatively can be learnt of many of the diseases of very young children in an hospital. Calm observation of large numbers of children in their homes, during health and in disease, and among the rich as well as the poor, is indispensably necessary to one who aspires to treat successfully this most numerous and most interesting class of cases upon whom the family physician is called to attend.

FOREIGN PLAGIARISMS.

The *Gazette Médicale* for March 23, in the report of the Academy of Sciences of Paris, states that M. Sedillot, of Strasbourg, has communicated a *new method* of operating in Staphyloraphy, with the account of a successful case. This "new operation" is nothing more nor less than the division of the abductor muscles of the palate,—an operation proposed and described by Mr. Fergusson, in the *Medico-Chirurgical Transactions* for 1845, further noticed in the second edition of his work on *Practical Surgery*, also in the *Medical Times* for 6th and 13th March, 1847; and lastly, forming the subject of two papers in the London Journal of Medicine for January and February 1849. Our French *confrères* have either an astonishing amount of self-complacency, or are in a lamentable state of ignorance of the labours of Englishmen in the medical sciences. M. Sédillot is pre-eminently in this condition; and we can only say of his conduct, that, if acquainted—and we can scarcely believe him to be otherwise—with Mr. Fergusson's publications, he has acted in a manner far from honest; if he has not, we know not what excuse to imagine for such deplorable—we may say disgraceful—ignorance.

In Dr. Oppenheim's *Zeitschrift* for November 1849, we have met with "Contributions to the Pathology and Treatment of Tropical Fevers, elaborated *(bearbeitet)* from the newest sources, by Dr. Helfft." At the *third* page there is a reference, in a foot note, to "James Bird, Report of the European General Hospital at Bombay." The first few sentences of the article struck us as being very similar to something which we had read before; and on referring to Dr. James Bird's papers on Tropical Fevers, published in this Journal in January and February 1849, we found that, with the exception of a few omissions, principally of the pathological views of the English author, the whole of Dr. Helfft's *elaborate* undertaking is a nearly literal translation of Dr. Bird's papers, commencing at the second page, with the observations on "Tropical Fever in General." Wherever Dr. Bird's name is introduced, it is only as an *occasional contributor*, in common with Mr. Gray, Dr. Mardon, and the other authorities cited by Dr. B. himself. The resemblance is so exact, that Dr. Bird's papers would almost, if not entirely, supersede the use of a dictionary for the translation of Dr. Helfft's article.

This appears to us one of the most barefaced instances of plagiarism with which we have ever met. We have not made this statement, without duly examining and

comparing the two articles; but the German production affords such incontestable internal proof of having been directly derived from the source to which we have referred it, that we cannot restrain our expressions of disapprobation at such a flagrant breach of all the rules of literary honesty. Such conduct can never conduce to the reputation of any one who commits it.

We call the attention of the Editors of Foreign Journals to the thefts, which are constantly being made by their contributors from the pages of British Medical Periodicals, in the hope that they will assist us in holding up such conduct to the scorn and contempt of the profession in all nations. For our own part, we must protect our countrymen; and insist on having their names mentioned when their works are appropriated, or their discoveries adopted.

APPOINTMENTS.

Budd, Dr. S., elected Physician to the Exeter Dispensary, in the room of Dr. Barham, resigned.

Hare, C. J., M.D., Senior Physician to the St. Marylebone Infirmary, appointed Assistant-Physician to University College Hospital.

Jemmett, Dr. Benjamin, elected Physician to the Westminster General Dispensary, in the room of Dr. Wegg, resigned.

Malgaigne, M., elected, after a severe *concours*, Professor of *Médecine Opératoire* in Paris, in the room of the late M. Blandin. The numbers at the final scrutiny were—for M. Malgaigne, 8; for M. Nélaton, 4; for M. Robert, 3.

Taylor, Dr. R., elected Physician to the St. Pancras Royal General Dispensary, and to the Central London Ophthalmic Hospital, Gray's Inn Road.

OBITUARY.

Allen, John, Esq., Surgeon, aged 60, at Epsom, on 6th March.

Boley, R., Esq., of Ashley Hill, Bristol, suddenly, while attending a patient, on 11th March.

Boyrenson, T., M.D., at Kaira, Bombay, of jungle fever, on 6th February.

Carver, Walter, Esq., Half-pay Surgeon to the 4th Veteran Battalion, aged 74, on 27th February.

Dix, Robert, Esq., Surgeon, at Brighton, aged 76, on 20th February.

Gray, John, Esq., Sherborne, Dorset, on 24th February.

Hutchinson, William, M.D., at Isleworth, aged 57, on 18th March.

Malyn, John, Esq., F.R.C.S., many years Surgeon to the Western Dispensary, and Lecturer on Anatomy and Physiology at the Westminster Hospital School of Medicine, aged 48, at Kentish Town, on 9th March.

M'Leod, Charles, Esq., Surgeon H.E.I.C.S., at the Free Church Manse, Snizot, N.B., on 4th March.

Marjolin, M., Professor of Surgery in the Ecole de Médecine at Paris, aged 70, on the 4th March.

Pardoe, Geo., M.D., at Little Holland House, Kensington, aged 40, on 9th March.

Prevost, M., at Geneva, lately. He was distinguished for his valuable contributions to physiology and medicine.

Stokes, J. J. Esq., Acting Superintending Surgeon, of the Nizam's army, at Elichpoor, on 30th December, 1849.

Stuart-Cooper, Dr., formerly *chef-de-clinique* of the Faculty of Medicine in Paris, of diabetes mellitus, lately.

Taylor, Thomas, Esq., Surgeon, at his residence, Bethnal Green Road, aged 39, on 7th March.

Young, Edward, Esq., Surgeon, wrecked in his passage from Wellington, New Zealand, to Port Victoria, Akaroa, in August last.

BOOKS RECEIVED.

Appeal to the Public in behalf of a Hospital for Sick Children. By a Provisional Committee. London: 1850. Appeal to the Medical Profession in behalf of a Hospital for Sick Children. By P. M. Latham, M.D., G. Burrows, M.D., R. Ferguson, M.D., H. Bence Jones, C. West, M.D. Blair on Yellow Fever. London: 1850. Hunt on Diseases of the Skin. London: 1850. Parker on the Treatment of Secondary Syphilis. London: 1850. Regulations of the Society of Apothecaries. London: 1850. Wilson on Diseases of the Skin. London: 1850.

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ORIGINAL COMMUNICATIONS.

ON CONICAL CORNEA.

By W. WHITE COOPER, Esq., F.R.C.S., Senior-Surgeon to the North London Eye Infirmary, and to the Artillery Company, etc.

My attention was some years ago directed to that singular change in the eye, to which English writers have applied the term CONICAL CORNEA; and I communicated with many eminent ophthalmic surgeons on the subject, besides instituting experiments myself. The information which has resulted, though throwing less light than could have been desired on the true nature and management of this intractable disease, possesses a considerable amount of interest, and, combined with other materials, will form the subject of this article.

Conical Cornea does not seem to have attracted the attention of oculists until within the last hundred years; and the first writer who makes mention of it is John Taylor, in his *Nova Nosographica Ophthalmia*, printed at Leipsic, in 1766. Leveillé has usually had the credit of the first recorded observation, but Taylor preceded him. Von Ammon was the first to notice the circumstance of its being, in some instances, a congenital defect, and also an hereditary peculiarity. He connected with it a singular form of the head. "It is worthy of remark", says he, "that also in this *hyperkeratosis congenita*, a peculiar form of the head obtains; viz., the so-called pointed head *(spitskopf)*. I have once noticed this in a family of sisters, who were all affected with congenital hyperkeratosis". Mr. Wilde also inclines to this opinion; but in Anne Reeder, whose case will hereafter be mentioned, the head was singularly elongated in the antero-posterior direction. There are not sufficient data yet to decide whether Conical Cornea and Conical Crania have any constant co-relation.

Conical Cornea appears to be peculiar to the human species; and so far as my inquiries have gone, it is limited to civilized races To ascertain whether it exists in the brute creation, I applied to Mr. Percival, the distinguished veterinary surgeon, who states that it certainly is not found in horses, and in his opinion, does not appear in any of the lower animals.

There are not, however, sufficient grounds for denying the possibility of its occurrence amongst them, especially if, as will hereafter be shewn, it is one of the results of inflammation; for with Squirrels, staphyloma, and leucoma, other results of inflammation, are common diseases; and in Lemurs also, I have observed examples of the same. In one instance there was a very fair specimen of a "conoidal globe".

It would appear as if Conical Cornea were a disease prevailing most in warm climates and warm situations, and becoming more and more rare as we approach the colder latitudes. Sir John Richardson informs me, that he "observed no cases of Conical Cornea among the inhabitants of the northern regions of America. Conjunctival ophthalmia is exceedingly common among the Indians and Esquimaux, and often terminates in blindness and opacity; but diseases of the humours, or ball of the eye, are not common". Conical Cornea is almost unknown in the north of Germany; and Himly, who has written on the subject, never saw a case. In the north of England it is less common than in the south and west, and in Scotland rarer than in England. Dr. Mackenzie has communicated to me, that of 15,924 cases treated at the Glasgow Eye Infirmary, only four were Conical Cornea. Dr. A. Anderson, of Glasgow, has only seen two cases since 1842. Dr. Cadenhead, of Aberdeen, says that, "out of upwards of at least 8000 eye patients who have applied to the Aberdeen Ophthalmic Institution, and to the Royal Infirmary Ophthalmic Wards, under my charge, I have only seen three cases—two females and one male"; and Mr. Walker, of Edinburgh, tells me that, of 7679 patients at the Edinburgh Eye Dispensary, there was *not one* instance of Conical Cornea. Compare with this the returns from China, where, of 6787 cases, no less than twenty-two were examples of this disease; from Dublin, where, of 4050 cases, ten were Conical Cornea; and from Plymouth, where, of 5118 cases, thirteen were Conical Cornea. Moorfields, too, presents a large number—as many as twelve in one year, and ten in another. Mr. James Dixon, the able surgeon to that noble institution, mentioned to me a curious fact,—that he had been looking out for an example of this disease during a whole year without success, when, on a certain morning, no less than three patients presented themselves quite independently of each other, and each with the disease well marked. In the table of returns *(see next page)*, I have only given those of Moorfields for the Metropolis, as patients suffering from Conical Cornea would be likely to seek relief at several institutions, and might thus be reported from each. Mr. Smith, of Southam, communicated to me, in 1847, that within the preceding year or two, he had seen no less than eight cases; and observes, that "they have generally agreed in a few things; they have been temperate, generally water drinkers, they lead sedentary lives, and have all come from a district of the country where a soft brown stone prevails in the earth".

Appearances and Frequency. The terms, 'Cornea Conica', 'Staphyloma Pellucidum Conicum', and 'Conical Cornea', are expressive of the alteration in the form of the Cornea which forms the distinguishing characteristic of the disease. But before the change in the outline of the cornea is sufficiently marked to be obvious to the casual observer, an unusual brilliancy of the eye is visible; a lustre which has been

TABLE, SHOWING THE PROPORTION OF CASES OF CONICAL CORNEA.

	Total Cases.	Con. Corn.		Total Cases.	Con. Corn.		Total Cases.	Con. Corn.
GLASGOW EYE INFIRMARY.			ROYAL LONDON OPHTHALMIC			BRISTOL EYE INFIRMARY.		
June 1824 to			HOSPITAL,			1814.....	107	1
Jan. 1847 ...	15924	4	MOORFIELDS.			1815.....	170	1
ABERDEEN HOSPITAL AND EYE			1839.....	4891	2	1816.....	208	0
			1840.....	5355	10	1817.....	467	0
INFIRMARY.	8000	3	1841.....	5528	5	1818.....	488	1
EDINBURGH EYE			1842.....	6085	7	1819.....	516	0
INFIRMARY.			1843.....	6572	0	1820.....	706	0
Jan. 1842 to			1844.....	6874	12	1821.....	679	2
Jan. 1850 ...	7679	0	1845.....	7005	4	1822.....	751	0
MACAO HOSPITAL.			1846.....	7010	9	1823.....	895	3
			1847.....	7672	5	1824.....	1153	0
1841 to 1842	1288	7	1848.....	8382	6	1825.....	1239	0
1844 to 1845	5499	15				1826.....	1294	3
ST. MARK'S HOSPITAL, DUBLIN.			LIVERPOOL EYE INFIRMARY.			1827.....	1365	1
						1828.....	1385	5
			1834.....	1770	2	1829.....	1174	0
			1835.....	1986	0	1830.....	1245	5
1845.....	980	2	1836.....	1965	4	1831.....	1227	0
1846.....	1526	6	1837.....	2186	0	1832.....	1374	1
1847.....	1544	2	1838.....	2189	0	1833.....	1350	0
			1839.....	2230	0	1834.....	1388	2
PLYMOUTH EYE INFIRMARY.			1840.....	2186	0	1835.....	1516	1
			1841.....	2224	2	1836.....	1647	1
1845.....	936	3	1842.....	2244	2	1837.....	1823	3
1846.....	848	0	1843.....	2287	1	1838.....	1911	0
1847.....	918	3	1844.....	3078	3	1839.....	1921	1
1848.....	1203	4	1845.....	3462	3	1840.....	2151	4
1849.....	1213	3	1846.....	3510	2	1841.....	2141	2
MANCHESTER EYE INFIRMARY.			1847.....	3721	0	1842.....	2363	1
			1848.....	3798	1	1843.....	2393	4
1834.....	1383	1				1844.....	2245	4
1837.....	1486	1				1845.....	2346	2
1843.....	1638	1				1846.....	2160	4
1844.....	1156	1				1847.....	2095	3
1845.....	1536	2				1848.....	2110	1

aptly compared to the sparkling of a diamond, especially in a well-lighted room at night, and which, by adding to the expression of his eyes, afforded considerable consolation to an actor who was the subject of this malady.[1] The brilliancy partly arises from the great number of rays reflected, and partly from the excessive refraction of those rays which penetrate the cornea. If we examine an eye in which the disease is commencing, it will be seen that the anterior chamber is unusually large, the cornea more prominent than natural, and that the outline, having lost its sphericity, has a pyramidal form (Fig. 1). The position of the iris is not altered; as the disease advances (its progress being

[1] "The most pointed cone I ever saw was in a clever comedian; he could only see to read three inches from his eye, and it gave the most peculiar character to the expression of his face on the stage I ever beheld: he thought the disease serviceable in that way." *Extract of a letter from* H. L. SMITH, Esq.

usually very slow), the change in form becomes more decided, and the cornea assumes such an appearance as would be presented were a dew-drop attached to the front of the eye. Mr. Wilde is of opinion, that when this conformation is congenital, the axis of the cone is seldom in the middle of the cornea, but is either above, below the centre, or to one side. No further change may take place, and the cornea may remain in the condition described, for a very long period, as happened in the case of an old lady, at Plymouth, related to me by Dr. Butter, in which the Conical Cornea had undergone no change during thirty years; or the deformity may attain so large a size as to prevent the closure of the lids, as was the case in a cook, a patient of Mr. Isbell, of Stonehouse (Fig. 2). A common change, however, is the formation of a speck of opacity at the extremity of the cone, and a considerable amount of lymph is at times deposited about that spot (Fig. 3).

Fig. 1.

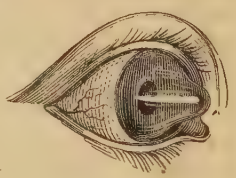

Fig. 2.

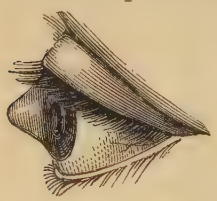

Fig. 3.

Instances have occurred in which there are opaque spots scattered over the cornea, as was observed in a schoolmaster, whose case was mentioned to me by Mr. Walker, of Manchester; and occasionally, though rarely, the whole cornea becomes opaque, as described by Dr. Farre, in a case which will be hereafter referred to. In the great majority of instances, a depression exists at the centre of the apex, as if a small piece had been chipped out.

To the unassisted eye, the surface of the cornea appears smooth and even; but under a lens, it is seen to be broken up by elevations and depressions, as pointed out by Sir David Brewster. Of the existence of these irregularities, I have many times satisfied myself; and, in one case of double Conical Cornea, there were five dimples distinctly seen in one eye, and seven in the other. This condition is probably dependent on unequal absorption, some portions having been removed whilst others remain.

The change of form generally implicates the whole cornea, but there are exceptions, of which the following is an interesting example. "I have seen", says Mr. Middlemore,[1] "one instance of this affection occurring only very partially, for the conical portion of the cornea was only as large at its base as the plane surface of a small split pea. It existed at the lower part of the cornea, resembled a small and extremely conoidal portion of beautifully transparent glass placed upon the surface of the cornea, and occasioned great confusion of sight from the unequal

[1] A Treatise on the Diseases of the Eye, vol. i, p. 533.

refraction of the rays of light". A somewhat similar case fell under my own observation, where the disease was clearly traceable to an ulcer, which, in healing, had left a dimple, or loss of substance in the cornea, and this dimple became the apex of the cone. A just distinction has been drawn between *true Conical Cornea*, in which the alteration in figure is confined to that membrane, and another change in form, the *conoidal eye*, which commences in the sclerotic at the insertion of the recti muscles, and is the consequence of inflammation. Fig. 4, taken from a patient of mine, is a good illustration of this disease.

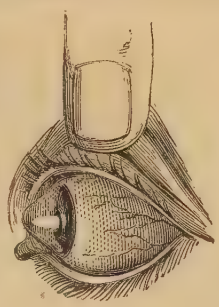

Fig. 4.

In almost all the cases I have seen, both eyes have been affected, although seldom to the same degree. The disease usually attacks one first, and sooner or later, the other. Mr. Wilde states, that "when congenital, both eyes are usually affected, whereas, when it occurs in after life, it is very frequently in but one". I have not been able to satisfy myself that any of the cases examined by me have been congenital, nor does the frequency of its being confined to one eye accord with my own experience; and I believe that it is occasionally overlooked in the early stage. Of forty-eight cases, three presented it in the right eye, eleven in the left, and in thirty-four, both eyes were affected, as will be seen by reference to the table. (*See next page.*)

It would seem to develop itself most frequently about the period of puberty, and to be rare in children and old people. The respective ages of fifty-six patients were as follows:—

Under 10	2	Between 40 and 50	5
Between 10 and 20	15	—— 50 and 60	0
—— 20 and 30	24	Above 60	2
—— 30 and 40	8		

I have no doubt that in the cases entered as above sixty, the disease has been of old standing, and I think it rarely commences much after forty. The total number of ophthalmic cases from which my calculations have been made, is 208,970. Of these, one hundred and ninety-four only were examples of Conical Cornea, giving a general average of 1 in 1077·16.

The averages of the special returns are as follows:—

Macao	1	in	308·50	London	1	,,	1089·56
Plymouth	1	,,	393·69	Manchester	1	in	1199·83
Dublin	1	,,	405·00	Liverpool	1	,,	1941·80
Bristol	1	,,	857·19	Scotland	1	,,	4514·71

Symptoms. Conical Cornea from its earliest commencement renders the individual near-sighted; and if the change in the configuration be considerable, the eye is rendered almost useless. The patients can then only discern objects when held very close and to one side. When looking at a book, for instance, they regard it obliquely, a peculiarity which gives a singular expression to the countenance. The gentleman who favoured me with the drawings, from which figures 5, 6, 7, 8, and 9 have been taken, stated, that although under ordinary circumstances he could not distinguish objects further from the eyes than three inches,

TABLE OF CASES OF CONICAL CORNEA.

No.	Name.	Age.	Eye affec.	Occupation	No.	Name.	Age.	Eye affec.	Occupation
1	Mary Boys	27	Both	Dressmr.	37	Emma Roberts	14	—	——
2	Louisa Wright..	24	Both	Milliner	38	Louisa Gill ...	20	—	Unknown
3	Female	—	Left	Milliner	39	Female	—	—	Housem.
4	Female	17	Left	Sempst.	40	Female	—	—	Cntry. gl.
5	Female	25	Both	Sempst.	41	Lady	71	Both	——
6	Female	17	—	Sempst.	42	Lady	35	—	——
7	Female	—	Both	Milliner	43	Lady	16	—	——
8	Mrs. Saker	40	Both	Cook	44	Lady	14	Both	——
9	Margaret Fitch .	25	Both	Cook	45	Harriet Smith	8	Both	——
10	Female	—	Both	Cook	46	Lady	19	Both	——
11	Female	—	Left	Cook	47	Lady	31	Both	——
12	Jane Matthews	38	—	Cook	48	Mr. Chapman .	—	Both	Med. stu.
13	Harriet Melrose	29	Left	Cook	49	Male	17	Both	Tailor
14	Eliza Richardson	27	Left	Cook	50	Male	29	Both	Shoemak.
15	Female	—	—	Lady's m.	51	Joshua B.	47	Both	Unknown
16	Female	25	Both	Unknown	52	John Bentley..	28	Both	Unknown
17	Female	—	—	Unknown	53	Joseph Diggles	—	Both	Unknown
18	Female	16	—	Unknown	54	Robert Ingram	20	—	Unknown
19	M. E.	22	Both	Lady	55	Evan Folks ...	52	—	——
20	Hannah Hudson	28	Left	Unknown	56	Wm. Matthews	29	Both	Unknown
21	Anne Holland...	21	Both	Unknown	57	Thos. Kennedy	47	—	Unknown
22	Phœ. Greenhalgh	28	Both	Unknown	58	Wm. Harrison	38	—	Seaman
23	Margaret Evans	14	—	Unknown	59	Male	—	—	Baker
24	Elizth. Oxford...	25	—	Unknown	60	Male	—	—	Grocer
25	Emma Housley.	26	Both	Sempst.	61	Male	—	—	Farmer
26	Jemia. Smithson	31	Left	Glover	62	Male	—	Both	Unknown
27	Mary Hall	18	Left	Shoebind	63	Mr. J. D.	20	Both	Med. stu.
28	Hannah Rogers	24	Rt.	Servant	64	M. ——	—	Both	Comedian
29	J. Macnamara..	11	Rt.	——	65	John Parker...	19	Both	Glassblr.
30	Arabella Thomas	19	Both	Servant	66	Geoffry Carter	26	—	Blacksm.
31	Maria Martin ...	23	Both	Servant	67	James Cook ...	32	Left	Tailor
32	Ann Reeder ...	17	Both	Servant	68	Rd. Macdonald	40	Rt.	Surveyor
33	Female	70	Both	——	69	Male	30	Left	Schoolm.
34	Mrs. H.....	40	Both	Lady	70	Luke Gibbon...	23	Both	Carpetwv
35	M. A. Roberts...	18	Both	——	71	Jas. Crawford .	9	Left	——
36	Margaret Gibb	22	—	Unknown	72	E. H. G.....	31	Both	Solicitor

yet, by making pressure upon the temples, vision was increased to six inches. The integuments were pushed forward so as to press slightly on the globes, and I ascertained that the object was equally attained by direct pressure upon the temporal side of the globe, thus altering its antero-posterior diameter. Luminous objects are frequently described as being surrounded by rings or belts, and are sometimes multiplied in number; phenomena arising from the irregular refractions caused by the elevations and depressions of the surface of the Cornea. In some instances the vision is much benefited by dilating the pupil with belladonna, as in the case of an old clergyman, mentioned by Mr. Lawrence, who was, for thirty years, the subject of this affection; and yet was able, by

Fig. 5.
Appearance of halo surrounding a parlour-lamp.

the use of belladonna and the nitrate of silver, to continue his duty in the pulpit, with tolerable accuracy, up to the time of his death. In several instances in which I tried it, not the slightest advantage was derived. In a few instances vision has been improved by looking through a pin-hole aperture; but in many others this also has failed.

The descriptions attached to the five figures are those written by the patient at the foot of each.

Fig. 6.
Usual appearance of belts surrounding luminous bodies. After gazing at any light for a short time, the belts and rays are so increased in number as to present the appearance of a mass of fire.

Causes. Much uncertainty prevails as to the precise nature of the changes which take place in those cases of Conical Cornea, which bear no satisfactory history, nor are traceable to any evident exciting cause

In a large majority of such cases, we find that the disease is in connexion with an enfeebled state of constitution, and a low condition of the nervous energy; a condition, therefore, in which the *vis vitæ* is impaired, and some at least of the organic functions are imperfectly performed. It has been demonstrated that the cornea, in its natural condition, is not traversed by blood-vessels; that the arteries and veins from which it derives its nutriment form a circle around it, but having barely penetrated its circumference, go no further. We may, therefore, conclude, that the cornea would speedily become sensible of any deficiency in the supply of new material, should the exudation of that material be interrupted. The materials for the repair of the waste of the membrane, (which waste, in common with that of other tissues, is

Fig. 7.
Appearance of belts surrounding the flames of three candles placed equi-distant from each other.

constantly in progress), are derived from the blood, each tissue being endowed with the power of selecting such constituents of the blood as are best suited to its composition. If then, there should be any interruption to the supply of particles capable of entering into the composition of the cornea, we might expect to find a change taking place in the structure of that membrane: the old material is being constantly removed by the absorbents, but the supply of new material to repair the waste is arrested; and as the centre of the cornea is the point furthest removed from the source of supply, it might be expected that that part of the membrane would exhibit the change consequent upon the interruption of supply in the most marked manner.

The effect then would be, that the pressure of the muscles of the globe acting upon its contents, would squeeze them forward; and the centre of the cornea, being the point of least resistance, would be projected into a conical form.

We have good reasons for supposing, that, in many instances, Conical Cornea is the result of congestion. Of forty-two cases in which the occupation of the parties was known, there were seven cooks, ten dressmakers and needle women, three tailors, a carpet-maker, a surveyor, a schoolmaster, a glass-blower, a blacksmith, and a baker, all employments having a direct influence in causing determination of blood to the eyes.

Strong presumptive evidence of the existence of congestion is afforded by the uneasiness in the eyes which often accompanies this disease. This symptom has scarcely ever been absent in the cases which have fallen under my own observation; and it has varied in degree from a sensation of discomfort to a positive pain of a dull aching character. A cook, whom I have recently seen, with Conical Cornea in both eyes, complained of pain, tenderness, and sense of distension of the globes. Another symptom indicating congestion is the frequent occurrence of muscæ volitantes. Of seven patients whom I questioned, six described the appearance of these annoying phantasms as being of daily occurrence. We have, therefore, sufficient ground for connecting the conicity of the cornea, in many cases, with congestion, occurring in combination with deficient nervous energy and feeble power. Persons who appear most subject to Conical Cornea, are those in whom asthenic choroiditis is frequently observed; and the supposition is not unreasonable, that the same influences which produce congestion of the choroid, may be exciting causes of Conical Cornea, by interrupting the circulation in the corneal zone of vessels.

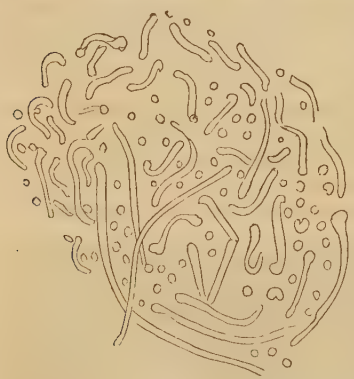

Fig. 8.
Muscæ volitantes seen on looking at a luminous object.

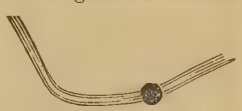

Fig. 9.
Fixed Musca, seen chiefly during reading.

If the vessels of a part are deficient in nervous energy, they will be

in a condition favourable for the occurrence of congestion, their power of vital resistance or tonicity being impaired. Excitement of the sensitive nerves of the cornea calls forth antagonistically, according to Henle's principle, a state of depression—a temporary paralysis of the motor nerves of the contractile fibres of the walls of the small arteries, opening into the capillary network of the conjunctiva and sclerotica adjacent to the cornea; the effect will be, first, relaxation and dilatation of those arteries, and then accumulation and stagnation of blood in the capillaries. If the capillaries which surround the cornea and supply it with nourishment are thus deficient, congestion will speedily arise, and the effect will be to diminish the exudation of nutrient fluid from them, and consequently to interrupt the process of assimilation in the membrane. Then the centre of the cornea, being the most distant point, will exhibit the deficiency in the most marked degree; and the balance of nutrition and absorption being lost, attenuation of that part will occur. If we suppose the congestion to go somewhat further, and lymph to be thrown out, we may expect to find the margin of the cornea thickened, whilst its centre is unusually thin.

Ulceration of the cornea is sometimes followed by that membrane assuming the conical form. It is not surprising, that a spot deprived of the anterior elastic lamina, should be thereby weakened, and less able to resist the pressure from behind. In such cases, the dimple or cicatrix of the ulcer usually forms the apex of the cone.

Conical Cornea is, undoubtedly, a frequent consequence of inflammation of the membrane; particularly when modified by struma. Dr. Mackenzie informs me that he has seen it associated with scrofulo-catarrhal ophthalmia, with opacities, and with pterygium; Dr. Butter of Plymouth has seen it after purulent ophthalmia, and after ulcers of the cornea; such also has been my experience. Dr. J. C. Hall relates a case in which it followed syphilitic iritis; and it has been pointed out by that gentleman, and also by Mr. Wilde, that when Conical Cornea is the sequel to inflammatory action, the abnormal curvature is not limited to the cornea, but commences about the insertion of the recti muscles in the sclerotic. I have seen a well-marked example of this, and the form of the eye has been aptly compared to that of the eyes of raptorial birds. The opinions of Dr. Jaeger of Vienna are, at all times, entitled to the highest respect, and I may here introduce an interesting and important letter with which he favoured me.

"Vienna, June 1, 1847.

"Sir,—Having had occasion to observe cases of staphyloma pellucidum during a space of forty years, I consider it to be the result of a specific inflammation of the cornea veritatis, or a symptom of this inflammation. In the first case, excepting a Conical enlargement and greatly increased expanse of the cornea, with more or less opacity of the projecting part, there is nothing morbid, and the functions of the eye would be well performed, were it not for the faulty form of the cornea. In the second, besides the conical form of the cornea there is inflammation of the eye present, but especially of the cornea, and the opacity and conical shape of the cornea are merely symptoms of the inflammation. The opacity of the cornea may be looked upon as the redness of inflammation elsewhere, and the cone is induced by the loss of elasticity in the tissues, and the softening of the cornea itself.

"The thickness of the cornea varies. In the first series of cases it is thin and membranous at the apex: in the second class, it is double, or even three times its natural thickness, the tissues being soft, loose, and swollen.

"The character of the inflammation which gives rise to staphyloma pellucidum, is generally scrofulous, such as affects fibrous and cartilaginous tissues; but rheumatic and syphilitic inflammations, especially when combined, also tend to induce this deformity. It may be observed, and that not uncommonly, as a result of gonorrhœal ophthalmia. The loss of the outer or conjunctival layer of the cornea will give rise to this affection; but the why and the wherefore are not yet sufficiently explained. Staphyloma pellucidum is rarely congenital; it is generally developed during the first years of life, and sometimes at a more advanced period; but being once developed, it is never lost The prognosis is doubtful. A cure is only to be thought of in the commencement of the disease—the inflammatory stage; this past, treatment is for the most part useless.

"The indications are, to treat rationally the existing inflammation as regards its nature, degree, and character. If the staphyloma be a *residuum morbi*, medicinal application we find avail not; neither can benefit be afforded by operative means. Extraction of the lens and formation of artificial pupil, accomplish nothing towards a cure—or something very imperfect. The same may be said with respect to the partial removal of the cornea. This is all that I am able to say upon this subject. Dr. Fr. Jaeger."

By Dr. Jacob, of Dublin, who is a high authority, Conical Cornea is considered as a decided result of true corneitis. "I am prepared (says he) for a denial of the correctness of this statement, that the *staphyloma pellucidum* or Conical Cornea, is owing to the disease under discussion (true corneitis); but I nevertheless venture to insist upon it, because I have seen and traced the change from its commencement to its termination, more than once. That there should be doubt and difference of opinion on the subject is not surprising, because true corneitis is not a very common disease, and the change in shape to the conical is not a frequent consequence of it. The alteration takes place in childhood; for the disease generally occurs at that period of life, and, after the inflammation has disappeared, and the opacity has been dissipated, no defect except this conical state remains. . . . . That I have seen the cornea become opaque from corneitis, then conical, and finally perfectly transparent, I am quite positive; but not only have I seen this, but also have I seen it become distinctly conical, in a case of a common idiopathic inflammation of the eyeball in a man of middle age, although not transparent or resembling the true staphyloma pellucidum."[1]

Dr. Mackenzie also has known it to arise from corneitis, and informs me of an interesting case—that of a young lad in whom it followed a blow with a snow-ball.

Several authorities agree that it may be the result of excessive weeping, the most striking illustration of which, is afforded by the following case, related to me by Dr. Farre, the Nestor of English ophthalmic physicians.

[1] A Treatise on the Inflammation of the Eye-ball, p. 196.

"Many years ago I was called in to see a young lady under the following circumstances. She was one of two sisters who were devotedly attached and scarcely ever apart. Her sister died; and so excessive was the poor girl's grief for her loss, that for several months she never ceased to weep—tears constantly stood in her eyes. The effect of this constant excitement of the organs of vision, was to produce, first, Conical Cornea in a marked degree, and secondly, opacity not only of the apices of the cones, but of the whole of the cornea, rendering them quite leucomatous; and this condition could only be relieved in a very trifling degree." Mr. Square, of Plymouth, informs me that he has seen a great many cases of Conical Cornea, that the subjects of it were principally delicate females, and that the cause has apparently been traceable to grief and the depressing emotions of the mind. Mr. Tyrrell told me, shortly before his death, that he had seen a case very similar to that related by Dr. Farre. That excessive weeping should induce Conical Cornea is not surprising, when we bear in mind that it would have the effect of keeping up a continued state of congestion of the eyes, combined with compression of the globes,—circumstances highly favourable for the development of the disease under consideration.

Conical Cornea is described by many writers as the occasional result of violent muscular contractions and convulsive efforts. A case of a man who was hanged, recorded in the first volume of Haller's *Disputationes Chirurgicæ*, is generally quoted as a striking illustration. It was addressed from Rostock, by C. Burgmann, to Heister, in 1729, and is illustrated by a plate, which fortunately enables us to form our own opinions as to the probability of the case. The globes of the eyes are represented as retaining their proper form, but the corneæ have been squeezed into two processes, which reach to the end of the nose, and in shape, resemble the swim-bladder of certain fishes. The length of each would be about an inch and a half, and the breadth at the base about half an inch; and the question which naturally arises is, with what can these sacs have been filled? The globes retaining their form, it cannot be lens and vitreous humour; and aqueous humour would not be secreted so quickly, or distend the corneæ so violently, without bursting them. My own impression is, that the case has been much exaggerated; for if hanging produced such effects, the case would scarcely be a solitary one.

Pathology.[1] The late Sir William Adams, with more confidence than accuracy, gave it as his decided opinion, that Conical Cornea was the result of a morbid growth and thickening of the substance of the cornea. In this opinion he stands nearly, if not quite alone, and every fact that has been ascertained, is adverse to it. The rarity of the affection renders opportunities of examining such diseased eyes after death very uncommon; consequently, much interest attaches to the autopsies which have taken place. It may be mentioned, that a difference of opinion exists as to the precise form of the healthy cornea. Kraüse, of

[1] I regret that I have not been able to refer to the writings of M. Sichel on Conical Cornea: he informed me by letter that they are contained in the Second Supplement to the *Annales d'oculistique* for 1843. Singular to say, the supplementary numbers are not contained in any of the sets to which I have had access in London, and I have therefore been unable to consult the papers in question.

Hanover, states that the cornea is thicker at the circumference than the centre, rendering the exterior surface nearly spherical, the interior parabolic. Mr. Bowman and others are of opinion, that the thickness of the cornea is equal throughout, and that the two surfaces are perfectly parallel. I have taken some pains to satisfy myself on this point; and, I incline to the latter opinion, though, from the difficulty attending the examination of the cornea in what may be considered its perfectly natural state, the point is not yet satisfactorily established.

More than one instance is recorded, where a Conical Cornea has been burst; and the tenuity of the membrane when the disease is far advanced, but before it has become opaque, may be ascertained by pressing upon it with a probe. The sharpness of the margins of the depressions, and the absence of that toughness which characterises the natural Cornea, sensibly indicate its thinness, which is fully confirmed by the following accounts of necropsies. Mr. Middlemore states,[1] "I have had one opportunity of examining, after death, the state of the cornea, which was affected with Conical Cornea in an extreme degree; and in that instance, its laminæ were less moveable, its circumference was of a natural and ordinary degree of thickness, but its apex was much thinner than usual, and rendered opaque on its exterior only, for its neural surface, even at the apex, was perfectly transparent; in other respects, it did not appear to have undergone any change, unless I mention that alteration in the evenness and equality of its surface, discovered by Dr. Brewster, but which was not visible to the naked eye." The late Mr. Walker, of Manchester, informed me that he had examined a similar eye. "There was", said he, "great attenuation of the cornea throughout its entire substance, especially at its central portion." From Dr. Butter I learn, that in cases which he has examined, the cornea became thicker towards the base, and thinner in the centre. Dr. J. C. Hall writes,—"Some years ago I examined a case after death. I cannot, at this moment, find a note of the case; but I am certain that the circumference of the cornea was of the usual thickness, and that the apex was very much thinner than natural. The changes also appeared confined to the exterior; the neural surface was bright even at the circumference". Professor Jaeger, of Erlangen, has published the result of the dissection of a case, as follows: "When the cornea was taken between the fingers, there was distinctly perceived a depression in the centre, surrounded by a thick, prominent ring. On making a section of the cornea through its centre, the middle third was found three times thinner than natural, like thin writing paper; the two outer thirds were manifestly thickened, a condition which was especially conspicuous in the central lamellæ, but not in the most external or internal. The middle substance was homogeneous; the thickening of the external part was gradually lost in that which had become thin, so that the diameter of the latter was about equal to that of the expanded pupil."

It would appear, therefore, that the principal changes which take place, are in the anterior elastic lamina, and cornea proper; the former losing its toughness and power of resistance, the latter being diminished in thickness and cohesion towards the centre, and, in some cases, thick-

[1] A Treatise on the Diseases of the Eye, vol. i, p. 532.

ened towards the circumference. In future cases, it will be interesting to ascertain whether the anterior elastic lamina and its filaments of connexion, can still be traced, and what is the precise condition of the cornea proper during the various stages of the disease.

The treatment of Conical Cornea will form the subject of another communication.

(To be continued.)

19, Berkeley Square, March 1850.

THE TYPES OF DELIRIUM TREMENS, THEIR PATHOLOGY AND TREATMENT.

By JAMES BIRD, A.M., M.D.

In the following paper, I propose to consider the types of Delirium Tremens, or rather the pure form of this disease in relation to sequent and kindred affections of the brain, caused by the intemperate use of alcoholic drinks, aided by other predisposing causes.[1] The types of the disease are at present variously arranged, in nosological systems, as *Delirium Tremens nervosum et traumaticum, phrenesia potatorum, encephalitis tremefaciens, delirium afebrile tremens, and irritative fever of drunkenness.* I am not aware that there exists any description of Delirium Tremens, embracing its modifications and complications, which can be considered practically applicable as a guide to the treatment of the disease in all its varieties. I shall, therefore, describe the disease in its simple form and in its complications, characterizing each by a distinct definition; so that the relations and differences of the modifications may be at once seen, and made the foundation of a like modified treatment. The facts and illustrations of this paper are taken from numerous cases, received into the European General Hospital at Bombay, from the beginning of 1836 to the end of 1840, and which were treated either by the hospital assistants or myself.

The most usual divisions of this disease have been into two species; the one succeeding the excitement of hard drinking, without any intermediate abstinence from the accustomed stimulus; the other, attacking habitual drunkards soon after the accustomed stimulus had been withdrawn. The former may be considered as a state of *hyperæsthesia*, and increased vascular action in the nervous centres, or in the remote organs

[1] Many of the erroneous principles acted on, at various times, in practical medicine, have been drawn from narrow-minded views of the specialities of diseases, considered as *entities*, and without reference to the analogies of their phenomena. Nosology, to be of real practical utility in medicine, must have its foundation in the relations which exist between modified states of disease, each leading to important points of practice. The influence which one class of morbid functional derangements has in modifying the conditions of subordinate functions in other classes, should be made an important consideration in our study of diseases affecting different tissues, but associated in their phenomena and progress, as originating in derangements common to all their modifications.

acting on them; the other, a state of *hypæsthesia*, or exhausted nervous sensibility and diminished vascular action of the capillaries, more nearly akin to congestion than inflammation. Dr. Stokes, of Dublin, thinks that the pathological condition of the former consists of gastritis, accompanied by excitement of the brain and nervous system; and recommends that its treatment should be that of gastritis: but that in the other case, the functions of the brain are disturbed, by the abstraction of an accustomed stimulus, and that the appropriate treatment must be to restore that stimulus, and administer porter, wine, brandy, and opium. The division of the disease into stages, as adopted in Dr. Blake's well known and excellent monograph, is chiefly applicable to the pyrexial variety, wherein constitutional predisposition has been established by typhoid influences, or whatever impairs the vitality of the system, such as inanition, immoderate mental exertion, intemperate habits, impoverished food, and malarious emanations; but these stages are altogether absent, or, in general, imperfectly developed in the other forms. The sedative influence of *malaria* and of *alcoholic stimulants* on the nervous system, has a natural tendency to produce a stage of depression or temporary collapse, followed by one of erethism, and terminated by one of nervous and capillary relaxation, such as characterize the *pyrexiæ*; and though, like fever, Delirium Tremens is frequently a compound affection of the nervous, circulating, and secretory systems, it is frequently met with without being associated with any derangement of the latter, and without the characteristic stages of febrile disease. The only divisions of it, therefore, should be such as are founded on leading differences of characteristic phenomena, and which may guide us to some practical modifications of treatment. These differences seem to point out the modifications of Delirium Tremens under four forms—the *simple*, *inflammatory*, *pyrexial*, and *epileptic*; which, with the predisposing and exciting causes of the disease, the character of the nervous erethism and mental alienation accompanying the several forms, their pathology and treatment, I now propose to consider.

There is no one symptom which may be considered as an essential character of the disease; its leading features are insomnia, excited agitated manner, constant loquacity and reverie, with tremor of the hands, and sometimes a fidgetty employment of them. The patient, who has lost the power of attention and association of ideas, when awakened to a sense of consciousness by a question addressed to him, answers generally to the purpose, and does whatever is required of him; but, being unable for any length of time to fix his attention, or control his volition, he immediately after wanders from the scene around him, and relapses into incoherency.

It is difficult to give any true or concise description of Delirium Tremens. It may, however, be thus defined.

Def. *A disease which manifests itself, after hard drinking, or the long-continued and free use of narcotico-stimulant substances; and is characterized by insomnia, exalted sensorial function, rapidity of thought, mental hallucination or illusions of sense, tremor of the tongue or limbs; delirium occasionally associated with inflammation or fever, a cold clammy perspirable state of the cutaneous surface, seldom recovered from without a critical sleep, and prone, in its worst forms, to terminate in coma.*

MODIFIED FORMS.

I. *Simple.* This must be considered as the purely nervous variety, depending on mere erethism of the system, either of centric or peripheral origin, which runs a certain course, and has a tendency to subside of itself in a given time.

DEF. *It is marked by insomnia; busy mental excitement and loquacity; psychical hallucination or incoherent muttering; illusions of sense; timid suspicion of imagined conspirators; tremor of the tongue or hands; hepatic erethism or irritability of stomach; impaired urinary function; occasional headache and precordial anxiety; tongue sometimes clean, at others loaded; pulse frequent, irritable, sometimes natural; a perspirable state of the skin, and pain of the limbs: the disease varying by the occasional absence of mental incoherence or tremor.*

The first tabular statement of forms will best illustrate this variety of the complaint; which, as has been shown by Dr. Ware of Boston, has a natural tendency to terminate in a spontaneous and salutary sleep, at a period seldom less than sixty or more than seventy-two hours from the commencement of the paroxysm, which may extend, however, to six entire days. The generality of cases composing the first table, seldom ran a course beyond the beginning of the fourth day; though, in some of them, the nervous erethism and increased vascular action of the cerebrum extended beyond this period. In one, the symptoms did not subside until the ninth day; but in this instance, perhaps, the exalted nervous sensibility was accompanied by functional exhaustion of the nerves of the cerebral blood-vessels, followed by relaxation of the capillaries akin to inflammation. This is a point of practical importance, in observing the phenomena of the various forms of Delirium Tremens, which may vary from slight tremor with spectral illusions, depraved sense of hearing, or deranged common sensation, to aggravated forms of inflammation, muscular agitation, fever, and vital depression: all of which must be viewed by the discriminating practical physician, as transitions only from lesser to greater degrees of disease. In most cases of indisposition among drunkards, an attack of Delirium Tremens may be looked for as a probable event; and cerebral erethism, which constitutes the lesser degree of this complaint, may supervene on peripheral irritation of the skin, stomach, intestines, or thoracic contents. Dr. Stokes, in illustrating sympathetic affections of this kind, cites a case from Andral, where the symptoms of gastritis were suspended on the supervention of tetanus, which proved fatal; and on dissection, the brain and spinal cord presented no morbid appearances, though the mucous surface of the stomach was intensely inflamed. In another case, which occurred at the Meath Hospital, the patient laboured under symptoms of cerebral inflammation, though there was no epigastric tenderness, vomiting, or symptom of gastritis; yet, on dissection, extensive inflammation of the digestive tube was discovered, but none of the brain or its membranes. Where symptoms of erethism do not subside so quickly as usual in the simple forms, we must not too hastily ascribe them to the existence of inflammation. I have seen attacks of Delirium Tremens brought on in drunkards by the application of blisters. It is well known that wounds and other injuries bring on the *traumatic* form of the complaint, to which Dupuytren first called attention; but this celebrated surgeon too hastily

inferred it to be in all cases a species of *encephalitis*. The disease frequently occurs in those subject to hepatic erethism, or copious biliary secretion, accompanied by irritability of stomach, and frequent vomiting; but, in such patients, its phenomena quickly disappear under the depurating effect which such increased secretion produces in the constitution. Similar critical evacuations, from the kidneys, skin, and intestines, during the convalescence and recovery from mania, were observed by Pinel, who says, that such patients were less liable than others to relapse. The tabular statement appended, shows that the disturbed state of sensation and intellectual action was sometimes considerable, in cases where there were no tremors; and again, tremors existed in some, where there was no sensory disturbance.

II. Inflammatory. This is the next form of the disease with which we meet in the tropics. It is one marked by a greater degree of vascular determination to the brain and its connexions, or to some of the remote organs, either the stomach or lungs, which may act sympathetically on the nervous centres.

Def. *Characterised by great restlessness and impatience of manner; maniacal violence, and busy psychical hallucination or muttering delirium; flushing of the countenance, heat of head, and contracted pupils; convulsive twitching of the muscles, heat or pain at the epigastrium; a frequent full, or hard pulse; generally, a dry, hot skin, but sometimes, a cool, perspirable, cutaneous surface; a dry, red, parched tongue; and much thirst.*

The transition from simple erethism, or disturbed sensation, accompanied by a slight degree of derangement in the capillary circulation of the brain, or peripheral organs, to a higher degree of nervous irritation and increased vascular action, constituting an inflammatory state of either the nervous centres or their peripheries, must be viewed as an important ground of distinction in the various phases of the same disease. That this distinction is one well marked, the various cases of Delirium Tremens, which compose the second tabular statement, will show; and it should not be lost sight of, either in the pathology or treatment of the complaint. It is important in all inflammatory affections of the brain, and of its subordinate nervous centres, to determine whether nervous or vascular derangement has the precedence; for on the predominance of one or the other, the treatment must be regulated. The primary assimilation of individuals attacked by Delirium Tremens, will be generally found defective previous to the occurrence of the attack; and as the processes of nutrition, both in the nervous and vascular systems, has been imperfectly performed, it is necessary to keep in mind, that inanition, and other predisposing causes of the disease, are debilitating ones, which give to the inflammation set up, a character of exhausted constitutional power, strongly disposed to pass into suspended functional action of the nervous centres, by terminating in coma, apoplexy, and cerebral effusion. If the attack has been preceded by long-continued habits of intoxication or great mental excitement, this state of innervation and exhausted power will be more apparent in particular symptoms, as the low, muttering character of the delirium; the anxiety of the respiration; the frequency, feebleness, and irritability of the pulse; the pallor of the countenance; the cold and clammy moisture

of the cutaneous surface, and the dryness of the tongue. Every increased action and excitement of the nervous centres involves, as would appear, a disintegration of their substance, and corresponding demand of reparation, without which, immediate suspension of their functional operations must follow. Attention to this law of the constitution will be found of great importance as ground for modified treatment of this disease.

III. *Pyrexial.* The third form of the complaint, which occurs more generally in the malarious seasons of the year, from July to October, is frequently met with, during the other months, in constitutions rendered irritable by long residence in warm climates, or in persons previously subject to intermittent and remittent fevers.

DEF. *It is accompanied by wakefulness, anxiety, and restlessness; following a stage of depression, chilliness, or shivering; succeeded by febrile heat of skin, or cold clammy perspiration; tremor, muttering delirium, and illusions of sense; frequent sighing; rapid, irritable pulse; furred tongue; scanty urinary secretion; complicated with inflammation and pyrexial paroxysms, and prone to terminate in collapse or epilepsy.*

Most of such cases might be viewed as forms of irregular remittent fever, which, accompanied by irritability of the sensorium and nerves, are apt to terminate in suspension of the nervous functions. Among recently arrived Europeans, during the hot weather in India, this form is met with as the product of elevated temperature and excessive spirit-drinking, and assumes many of the characters of an inflammatory remittent, in which accelerated vascular action has predominence over nervous erethism. In the *asthenic* modification of it, however, the vertigo, dilated pupil, oppressed and weak pulse, and other symptoms of depressed nervous energy, (which characterize cases of Delirium Tremens), with a well marked tendency to syncope and feeble action of the heart, point it out as a disease of innervation. Modifications of this variety, in debilitated constitutions, rendered irritable by long residence within the tropics, are also frequently met with during the cold months. In a practical point of view, it is useful to arrange such cases as modifications of Delirium Tremens; for though, with equal propriety, they might be classified as varieties of remittent fever, they should be separated in the mind of the physician, from more pure remittent fevers, caused chiefly by malarious influence.

IV. *Epileptic.* This is the fourth and last form of the disease.

DEF. *Insomnia; psychical hallucination, or illusions of sense; extreme tremor; and sometimes convulsive twitching of the muscles, passing into sudden loss of consciousness and sensation, accompanied by clonic spasms of the muscles, recurring in paroxysms, which terminate in recovery of consciousness and sensation, or in apoplectic annihilation of the cerebral functions.*

In the fourth tabular statement, seven of these cases are given, five of which proved fatal. The symptoms were analogous generally to the delirium, coma, and epileptic convulsions, induced by certain narcotic poisons, as belladonna and stramonium. Regarding the poisonous effects and symptoms of these last, I shall have, presently, occasion to speak.

The retention of these poisons in the system gives rise to a disturbed state of intellectual action and sensation, similar to what takes place in common epileptic attacks; and epileptiform symptoms of Delirium Tremens, are, as would appear, the combined result of the poisonous action of the alcoholic stimulant on the system, and the retention of important excretions, particularly the biliary and renal, which, when not eliminated by their own proper organs, cause the body to become a source of poison to itself.

PREDISPOSING AND EXCITING CAUSES.

Attacks of Delirium Tremens seem to depend, in many cases, on peculiarity of temperament, and individual constitutional excitability, either of hereditary or acquired origin. They happen most frequently among men of irritable dispositions, who are subject to precordial anxiety; or may be brought on by habitual indulgence in strong alcoholic drinks, and certain other narcotics, or stimulants. Whatever debilitating causes exhaust the energy of the nervous and circulating systems, and reduce the normal condition of the nutritive functions of the body, such as insufficient alimentation, inordinate mental exertion, and the immoderate use of various narcotic irritants, aided by the elevated temperature of tropical climates, are well marked predisposing causes of the disease. They render more effectual the influence which alcoholic drinks have in disturbing the intellectual, sensory, and motor functions of the brain and medulla oblongata. In such cases, immoderate spirit-drinking becomes an exciting cause of the disease; but in other cases, immoderate and continued habits of debauch become the predisposing causes of the phenomena which accompany the attack, but which are not developed in the system until some additional cause of exhaustion produces them. In this manner, losses of blood will often produce, in men of intemperate habits, all the phenomena of Delirium Tremens; and these are seen to follow, in many cases, hæmatemesis, or the bleeding from a wound.[1] Other predisposing causes, such as imperfect ventilation, malarious emanations, and the exhausting effects of fear and disease, seem to operate as predisposing causes; which, by enfeebling the vigour of the circulation, and impairing the energy of the nervous system, give efficacy to intemperance as an exciting cause of the disease. Sometimes, elevated temperature, or habitual exposure to the sun, act in this manner as predisposing causes, and give efficacy to immoderate drinking as the exciting one; but all these causes may be seen to occasionally change places with each other, while all of them agree in exerting the same morbific influence, by producing defective innervation, and consequently, unequal distribution of blood in the central or peripheral sensory organs.

Regarding the influence which elevated temperature has in producing the disease, Dr. Morehead, in some sensible observations appended to his *Pathological Anatomy of the Diseases of Bombay*, observes, that of

[1] Discontinuance of the immoderate and habitual use of ardent spirits, by producing a like state of exhaustion, becomes an immediate cause of the disease; the stimulus of alcohol being here the predisposing, and the cessation of its action the immediate cause of an attack.

twenty-nine cases where increased serous effusion and abnormal cerebral vascularity existed, within the cavity of the cranium, only three of these happened in the cooler months of the year, from November to March; and that the remaining twenty-six cases were distributed over the hot months, from the beginning of April to the end of October. In the tabular statement, given by him, of the percentage of admissions for Delirium Tremens, on the total of diseases in hospital for five years, the comparative frequency of the former, in the different months, is thus shown.

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
3·2	5·3	2·1	4·4	4·7	3·1	2·3	1·9	3·3	1·2	2·3	3·5

Now the greater fatality of the disease, from April to October, may, in part, arise from the decrease of electricity in the air, during these months; Professor Faraday having lately expounded the decrease, obtained in degrees of M. Pelletier's electrometer. From these numerical results, Dr. Faraday finds that, in European climates at least, the quantity of electricity is at its maximum in the winter months, until it finds its minimum in June, and then again rises to its maximum in the succeeding January. The greater prevalence of Delirium Tremens in the cold months, as indicated by Dr. Morehead's table, would seem, however, to militate against the truth of any such inference; but the preponderance of the disease in hospital, at this time, may probably be explained by the fact, that the greater number of cases of Delirium Tremens admitted, are from among the seamen in the harbour, and that, in these particular months, there are more than the usual proportion of ships at Bombay. Dr. Blake, in his essay on the disease, decides somewhat hastily, that neither season nor climate has any material influence on its prevalence, while he quotes Rayer's opinion, that twice as many attacks of the complaint occurred in the month of May, as in any other month. Dr. Bang, on the other hand, found, that June and July were as fertile in its production as the month of May. Additional facts are yet wanting for the satisfactory solution of this interesting question, as to the influence which negatively electric states of the air have in rendering attacks of the disease more frequent or fatal in particular months; and an extension of Pelletier's investigation of this matter might be advantageously carried out in India.

Predisposing causes of the worst types of the complaint, the pyrexial and epileptic, will be found in some forms of organic disease of the brain or its membranes, of the heart or lungs, of the liver, and more particularly of the kidneys. Examples of these several causes are given in the two last tabular statements; which show, that organic renal disease is a much more frequent source of the worst symptoms of Delirium Tremens than is generally suspected; and lead to the inference, that when the elements of the bile and urine are not separated by their excreting organs in normal quantity, or when the brain, by the continued narcotism of alcoholic drinks, softens or is atrophied, the imperfect action of the liver and kidneys, being unable to free the blood from the excrementitious poisons accumulated in it, and not compensated by a suitable increase of the other excretory functions of the skin and lungs, tends to coma, asphyxia, and death.

DIFFERENTIAL DIAGNOSIS OF THE SYMPTOMS OF DELIRIUM TREMENS, AND THOSE OF POISONING BY STRAMONIUM, AND OTHER NARCOTICS.

Supervening as Delirium Tremens frequently does on the puerperal state, or on febrile attacks in the intemperate, and productive as are other stimuli and narcotics of complaints attended by nervous depression, restlessness, obscurity and perversion of the senses, delirium, and deranged states of the circulation, it is important to mark attentively their peculiar symptoms; so that the physician may be enabled to distinguish between them and those of the complaint now under consideration. The limits of this paper, will not permit me to do more than briefly notice the character of the mental alienation, as compared with other kinds of mania. I must, therefore, chiefly confine this Differential Diagnosis to the symptoms of Delirium Tremens, which are liable to be confounded with those disorders caused by stramonium, and other narcotics.

Before proceeding to the latter, I may here notice the characteristic mental alienation of Delirium Tremens, confounded with other maniacal states, and not always altogether inseparable from them, particularly in the monomaniacal cases of irresistible propensity to habits of intoxication; which, under the influence of extreme tropical heat, and maniacal idiosyncrasy, are occasionally met with. In cases of this nature the patient is violent, maniacal, and unmanageable; ready to injure himself, and dangerous to others when unrestrained. Some of the inflammatory forms of the disease are of this kind; but in such predisposed maniacal constitutions, we must not hastily conclude that the delirium is attendant on encephalitis, as it may proceed from temporary erethism of the brain, caused by alcoholic stimulants. In the table of the simple form, the case of J. A., admitted 19th June, 1838, is a good illustration in point. The patient, though very violent and maniacal during the paroxysms, inflicting on himself several wounds, became quiet and rational on the second day, without the use of any decisive antiphlogistic measures. The symptoms which serve best to distinguish the simple erethismal type from the cerebral *inflammatory* one, may be found in the state of the *skin;* which is soft and covered with perspiration in Delirium Tremens, generally hot and dry in encephalitis; in the *pulse*, which is soft and compressible in the former, sharp, strong, and resisting in the latter; in the *pallor of the countenance* and frequent absence of headache in one, contrasted with the flushed face, contracted pupil, intolerance of light, and throbbing of the temples common to the other; in the *tongue*, which is moist, loaded, and not greatly altered from a natural state, in exalted sensibility of the brain, but is dry and furred in inflammation of this organ; in the *tremors*, which, though so common to one, as to give it a distinguishing name, are replaced in the other by convulsive twitching of the muscles; and above all in the *character of the delirium*, which consists in obscure perceptions and weakened volition, illusions, erroneous convictions, and a busy bustling train of false ideas, opposed to unmanageable maniacal violence, which cannot be recalled from its reverie to a temporary sense of consciousness, accompanied by persistent incoherent loquacity. The simple form of the complaint again presents many of the characters of *acute dementia*, from which it differs but little, I believe, in pathological condition. Each renewed

attack of the former malady seems to bring the symptoms nearer and nearer to those of the latter. In both diseases there is the same lost power of perception and attention, the brain being no longer susceptible of receiving and obtaining impressions transmitted to it, and consequently incapable of associating the relations or preserving the recollection of objects presented to it. The history of the manifestation of the symptoms, and an inquiry into the predisposing and exciting causes, will always enable us to form a probably correct diagnosis of the two diseases in cases of difficulty and doubt.

But it is now time to turn attention to the chief object of this section,—the difference between the symptoms of alcoholic poisoning and of that from other narcotic substances. The phenomena attending the cumulative morbid influence of alcoholic drinks, are in many instances similar to those of other narcotic poisons, which act more immediately and directly on the grey or vesicular and white or tubular matter of the brain. Alcoholic fluids absorbed into the blood may therefore be considered indirect poisons; the primary effect of which, in large doses, seems to be irritant and stimulant, followed by a secondary sedative action on the brain, which constitutes them narcotic poisons. The symptoms of their poisonous effect most closely resemble those which proceed from poisoning by various species of *datura*, indigenous to India: of which Dr. Herbert Giraud, professor of chemistry in the Grant Medical College at Bombay, has given the best and most intelligent description.

Dr. Giraud informs us that in 1848, fifty-one cases in which stramonium poisoning had been inferred on presumptive evidence of its characteristic symptoms, were treated in the Jamsetjee Jeejeebhoy Hospital at Bombay. The seeds of the species of datura supposed to have been used, were those of the "datura alba" and "datura fastuosa", both indigenous to India. The general character of the symptoms closely resembled those induced by datura stramonium, exhibiting, in several instances, the three distinct stages, 1. of primary delirium, 2. of sopor or coma, and 3. of secondary delirium, which have been observed to mark the action of henbane, belladonna, and other solanaceous plants. The patients were seldom brought to hospital before the second stage had commenced, and very frequently not until the third stage—that of secondary delirium—had supervened. In the majority of cases, either from the small quantity of the poison, from the large amount of food ingested with it, or from peculiarity of constitution, only a single stage of delirium was observed.

The following is Dr. Giraud's description of the general course of the cases in which the full effects of the poison were manifested:—"The patient, in the primary stage of delirium, is found in a state of extreme restlessness, usually attempting to wander about as if in search of something, but frequently, from giddiness and extreme muscular weakness, he is unable to walk or even to stand; he either vociferates loudly, or is garrulous and talks incoherently; sometimes he is mirthful, and laughs wildly, or is sad and moans, as if in great distress: most generally he is observed to be very timid, and, when most troublesome and unruly, can always be cowed by an angry word, frequently putting up his hands in a supplicating posture. When approached, he suddenly shrinks back, as if apprehensive of being struck, and frequently he

moves about as if to avoid spectra. But the most invariable accompaniment of this, and of the final stage of delirium, and frequently also of that of sopor, is the incessant picking at real and imaginary objects. At one time the patient seizes hold of parts of his clothes or bedding, pulls at his fingers and toes, takes up dirt or stones from the ground, or as often catches at imaginary objects in the air, on his body, or on anything near him; very frequently he appears as if amusing himself by drawing out imaginary threads from the ends of his fingers; and occasionally his antics are so varied and ridiculous, that I have seen his near relatives, although apprehensive of danger, unable to restrain their laughter. Many of these singular movements appear to originate in a curiously-impaired or disordered state of vision, in which distant objects seem to the patient as if very close to him, and those that are near as if highly magnified; for frequently, after gazing for some time at a distant object, he will attempt to grasp it, as if it were close at hand; and he starts back when approached, as if he thought the person approaching would, the next moment, touch him. This state of vision may, in part, depend upon the widely-dilated pupil, which, as in poisoning by other solanaceous plants, is an invariable symptom in all cases, and is persistent through each stage, and even continues for some time after complete recovery. With the foregoing symptoms, great diversity in the state of the circulation is met with in different individuals, and even in the same individual at different periods. In the greater number of cases, the temperature of the surface, and the strength of the pulse are natural: although the rate of the latter is usually somewhat accelerated, (90 or 100). In other instances, the pulse is much quicker than natural (112 or 120), full, firm, and even sharp; the temples throb, the respiration is hurried, and the surface of the body is hot: whilst, as a third and less frequent condition, the pulse is quick, small, and feeble; the respiration slow, and the surface cold.

"The second stage, that of sopor, is the state in which a great number of cases are first brought under notice. They are then found either in a state of profound sopor, or in one of excessive drowsiness, from which they may be partially and momentarily aroused to some degree of consciousness; there is low muttering delirium, tremors, subsultus tendinum, and, most usually, the characteristic catching at objects, although the patient's eyes may be closed at the time."

The diagnosis of the simple erethismal type of Delirium Tremens, from like cases of narcotic poisoning, will be found in the history and development of the two diseases from their respective exciting causes; in the persistent *insomnia* of the one, contrasted with the somnolency, or rather *somnambulism* of the other; in the *manner* of the patient, which is busy and active in the former, sluggish and inactive in the latter; in the *greater power of controlling the thoughts* for a moment, which those labouring under drunken cerebral erethism possess over those affected by the narcotism of stramonium; and in the *more busy character of the delirium* of the first, compared with the drowsy, low muttering, and catching at objects of the last. In the form of Delirium Tremens, caused directly by the abuse of intoxicating liquors, the more *sthenic* character of the nervous sensibility, and of the vascular excitement, is at once so strongly marked, as to prevent any possibility of mistaking the two affections.

POST-MORTEM APPEARANCES AND PATHOLOGY.

The *Morbid Appearances* of the brain and peripheral organs of the chest and abdomen, as they occurred in the fatal cases of the tabular statements here given, will be found briefly narrated in the column of results. Dr. Morehead, also, in his *Pathological Anatomy of the Diseases of Bombay*, published in the *Transactions of the Medical and Physical Society* of that Presidency, has recorded the necroscopic appearances of the body in several cases.[1] The chief *cerebral* lesion, in those not addicted to long-continued intoxication, consisted of moderate turgescence of the membranes, opalescent thickening of the arachnoid, an abnormal vascularity of the substance of the brain, and copious serous effusion into the sub-arachnoid areolar tissue, with occasional bullæ of air in this tissue, or in the vessels of the cerebral membranes. Dr. Todd, in his valuable *Treatise on the Anatomy of the Brain and Spinal Cord*, observes, that Cotunnius and Magendie deduce, from their experiments on this *cerebro-spinal* fluid, that two ounces of it may be regarded, in a state of health, as a minimum quantity; and that twelve ounces of it may sometimes be obtained from the *cranio-spinal* cavity, according as there is a greater degree of atrophy of the brain. In the necroscopic examination of fatal Delirium Tremens cases, as they occurred in India, I am not aware that any accurate estimate of the total quantity of this effused fluid has ever been made. The quantity generally effused in the cranial cavity, was, however, abnormally great, amounting often to four ounces. The effusion occupied the sub-arachnoid tissue in the depressions of the cerebral convolutions, so as to give them a smooth, uniform appearance. The cerebral convolutions, too, were abnormally shrunk and flattened, not by distension from within, but as if they were abnormally shrivelled from atrophy of the cerebral matter; a result, probably, of the increased vascular action which had been repeatedly set up in the brain by excess of spirit-drinking. Mr. Stovell, the present surgeon of the European General Hospital, at Bombay, records the case of John Powell, an apothecary, thirty-nine years of age, of very dissipated habits, who died of Delirium Tremens; and in whom, on necroscopic examination, the brain was found unusually small, weighing 2lbs. 10oz.[2] Future observations on this point, made in India, should be specially directed to ascertaining the usual average weight of the brains of those who die of this disease; some of the worst symptoms of which are certainly associated with atrophy of the cerebral matter. The serum has been found occasionally sanguineous; and generally, the arachnoid, which was thickened, was of an opaque, milky appearance. In the inflammatory, pyrexial, and epileptic forms, the appearances were frequently of a better marked inflammatory character; viz., vascularity and thickening of the dura mater and pia mater, bloody effusion on the former, adhesion of the arachnoid to the pia mater by a thick layer of lymph, and abundant serous effusion within the cerebral membranes, or into the substance of the brain. The appearances in the mucous mem-

[1] Transactions of the Medical and Physical Society of Bombay, No. ix, p. 120.

[2] The average weight of the encephalon, estimated from Professor J. Reid's careful observations, made at the Royal Infirmary, Edinburgh, is 3lb. 2oz. 3½dr. in the male; and 2lb. 12oz. 8½dr. in the female.

brane of the *stomach* and *small intestines*, were generally of a chronic inflammatory character. The *liver* was sometimes enormously enlarged, and compressed the right lung. The *kidneys* were often converted into a uniform fleshy mass, or in a state of fatty degeneration of the cortical substance, encroaching much on the tubular portion. The *lungs*, in a few cases, were emphysematous, and gorged with blood, as in asphyxia. The *bubbles of air* in the vessels of the pia mater, or in the sub-arachnoid tissue, as observed by Dr. Morehead, were found in two of the cases, five hours after death, and appeared to be evolved from the animal fluids during life. Future observation should be directed to ascertain the chemical nature of the gas evolved, as it may result from the usual metamorphosis of the inspired oxygen and expired gases, in the peripheral system of the kidneys and liver, being arrested by this disease.

Pathology. An immoderate use of alcoholic drinks causes primarily excitement of both the nervous and circulating systems, followed, generally, by secondary depression of the functions of the brain; but when this nervous depression does not supervene, and the increased action of the circulating vessels continues, this may gradually subside without consecutive depression, as in some of the simple forms of Delirium Tremens; or it may terminate in cerebral inflammation and fever, such as characterize the inflammatory and pyrexial varieties of the disease. The derangement of the capillary circulation of the brain or its dependent nervous centres, and of the peripheral organs, is accompanied by exaltation of the sensorial function; so that these nervous centres and peripheries react on each other in producing various degrees of erethism and increased vascular action, observable in various states of the disease. Whether the nervous erethism be of centric or peripheral origin, it is accompanied by a mild or violent delirium, according as the deranged vascular action is of an *asthenic* or *sthenic* kind; and may be accompanied by excitement of the senso-motory function and muscular irritability; terminating in nervous exhaustion and depressed action of the heart, with coma and apoplectic death, or suspended function of the pulmonary capillaries, or asphyxia. The sthenic or asthenic symptoms, which become the objects of treatment, predominate according as the general nutrition of the system has been well or ill performed; or as the nervous centres are in a state of healthy energy or defective innervation, and according to their degrees of normal capacity and nutrition. In the young and robust, whose blood is rich in fibrin, and whose nerves are well nourished and exalted in tone, increased vascular action generally takes precedence of the nervous erethism; but in the old, and in those worn down by the effects of climate and their own intemperate habits, exhausted nervous power, and asthenic vascular action, will be leading features in the complaint.

The indirect narcotic action of alcoholic drinks is exerted on the central organs of the nervous system, the brain and spinal marrow, and is analogous in effect to that of more direct narcotics. This is shown by the loss of sensibility and volition, the convulsions, coma, and death, which follow previous excitement. The suspension of the respiratory movements, or the asphyxia, seems to be sometimes primary, sometimes secondary; but both the coma and asphyxia, in the worst cases of Delirium Tremens, are generally contingent on anterior conditions of the

system, and the suspension of its usual eliminating processes. The exhausted nervous power, and asthenic vascular action, which characterize particular attacks of the complaint, are found essentially connected with such conditions, which must not be neglected in the treatment; and are of more importance as the foundation of therapeutic indications, than the one too exclusively and absolutely acted on in many cases, that of interfering with the regular course of the erethismal paroxysm, by administering large doses of opium, chloroform, and other sedatives, instead of depurating the poisoned blood, and removing diseased secretions by means of purgatives and diuretics. Under the head of epileptic forms of the disease, seven such cases are recorded; of which, five proved fatal. A necroscopic examination of four of these revealed, that one of them was fatal by *coma*, two by *asphyxia*, and one by *syncope*. The comatose case was associated with cerebral disease and organic heart-affection of long standing; the latter organ being affected with fatty degeneration of the right side, and softening of the left. The two asphyxiated cases were connected with organic disease of the kidney or liver; and the case of death by syncope presented enlargement and softening of the heart, with ossification of the semilunar valves of the aorta.

TREATMENT.

I have thus endeavoured to bring into review all the varied aspects which Delirium Tremens presents under different anterior conditions of the system, arising out of diseased changes of the organism, or from the nature of the predisposing causes to which this may have been exposed. It will be obvious, from the exposition given, that the indications of judicious treatment must be founded on a correct diagnosis of particular cases, and on a sound knowledge of the existing pathological conditions associated with the morbid phenomena. Such can be alone obtained from a strict pathological analysis of the symptoms, combined with a knowledge of the previous habits of the patient. It should not be too hastily inferred, that the sole and leading indication of the treatment must be to induce sleep by heroic doses of opium; for this, when given too largely in order to cut short the exalted sensibility of the brain, without reference to the conditions of other remote organs, particularly the liver and kidneys, is fraught with much danger to the patient, by causing convulsions, coma, and death. Dr. Ware's two admirable memoirs on the *Natural History and Treatment of Delirium Tremens*, are most important contributions to a philosophical knowledge of the disease; and the conclusions arrived at, are essential elements in our comprehension of its true pathology and treatment. These conclusions are fully supported by the progress and termination of the forty-one cases reported in the first tabular statement. The paroxysm of the disease commences with certain obscure signs of depression, followed by excitement and delirium, which run a certain course, and terminate in sleep. This may be considered as much sequent of the stage of excitement, as is the secondary delirium to the stage of coma in cases of poisoning by stramonium. As a favourable termination of the symptoms generally follows a sound sleep, it has been concluded, somewhat erroneously, that sleep, induced by whatever means, is the cause of the salutary change which takes place, and by which the patient is relieved from excitement and restored

to reason. A profuse warm sweat may be observed to accompany this critical sleep; but when no such crisis is observable, and sleep has been procured at all hazards by means of large doses of opium, the patient passes into a state of apoplectic coma, from which he may never awake. The excitement of the system does not altogether depend on the loss of sleep; and we must not proceed too vigorously in endeavouring artificially to induce it by means of opium or chloroform, till the impaired secretory and excretory functions of the body have been restored to healthy exertion.

The indications of treatment to be generally acted on are: 1. To allay the exalted sensibility of the central nervous organs or their peripheries, by reducing vascular derangement and inflammation, by means of mild antiphlogistic remedies, and by the removal of all irritating diseased secretions of organs that react on the brain. 2. To restore the organs of assimilation to a healthy condition, so as to supply fresh nutrient materials to the blood; and to prevent nervous exhaustion by a moderate allowance of stimuli, combined with such materials. 3. To eliminate poisoned products from the blood, by restoring the proper excretory functions of the liver and kidneys.

In fulfilling the first indication, it will be prudent to seclude the patient in a quiet and partially darkened apartment, and let him be watched by some well instructed nurse or attendant, who is capable of quieting his impatience, and can manage him without physical restraint. I have known many cases, in which the mental emotion and nervous exhaustion, caused by coercion, were followed by the utmost danger to the patient, by bringing on an epileptic seizure. In particular instances, where the vascular action preponderates over the nervous erethism, the cautious use of general or local bleeding is admissible; but it must be remembered, that, though in such instances of inflammatory or pyrexial complication, blood-letting may be had recourse to, it must be used sparingly, as having a natural tendency to aggravate the nervous erethism, and those symptoms of exhaustion with which the disease is so usually associated. In most cases, therefore, the local application of ice or cold douche to the head is a preferable and safer means of subduing the cerebral sensibility and increased vascular action, which are so characteristic of this peculiar disease. The cold douche may be repeated three or four times in the day; and frequent general cold affusion, where the temperature of the skin is not below the natural standard, the pulse is of moderate strength, and there are no local complications, is had recourse to in India with the best effect. In many cases, even where there were indications of a feeble circulation, but much cerebral excitement, I have seen the cold douche to the head used with most beneficial effects, while the rest of the patient's body was immersed in a warm bath. The water used in India, where the mean temperature is high, was never artificially cooled; but when used in European climates, particularly in winter, it may be prudent, occasionally, to take off the extreme chill of the water before using it. In further fulfilment of this indication, the administration of tartar emetic solution, in the proportion of half a grain of the tartrate of antimony, with a drachm of the tincture of opium, and an equal quantity of nitrous ether, may be had recourse to with the greatest advantage in allay-

ing the excitement of the brain, and in inducing a healthy secretory action of the skin and kidneys. When the biliary secretion is morbidly increased, emetics will be of the greatest use in relieving the stomach from the irritation of unhealthy bile; and should purgatives be thought more applicable, calomel in large doses, or combined with antimonials and opium, followed by castor oil, may be advantageously employed. Sometimes the exhibition of stimulating enemata after the calomel and opium may be preferred to purgatives, which, when used too freely, are apt to produce an increase of excitement.

The fulfilment of the second indication is to be accomplished by administering moderate quantities of thin sago or arrow-root, combined with wine or brandy, according to circumstances. From five or eight ounces of port wine in the course of twenty-four hours, with occasionally a quarter of a pint of brandy or gin, adapted to the greater or less nervous exhaustion of the patient, will be generally found sufficient to fulfil all that is here required in particular cases. Should the appetite, as is often the case, admit of more solid ingesta being used, mutton chop, grilled chicken, etc., may be given to the patient.

The third and last indication, that of removing poisoned elements from the blood, is partly effected by the latter part of the first indication of removing irritating secretions from organs that react on the brain. The special object in view, however, should be steadily promoted, by freely administering calomel, aided in its action by diuretics, in order to restore the impaired excretory functions of the liver and kidneys, and thus eliminate urea from the blood. In cases of peripheral erethism, arising from the retention of biliary matters, calomel will be found an invaluable remedy; and Mr. Corfe's late experience of its good effects, in cases of this kind, and of deranged gastro-hepatic function, establishes the fact, that it will succeed in subduing general erethism after all other remedies have failed. The whole of my experience in India can bear testimony to its good effects, and would justify Mr. Corfe's well-grounded reliance on this as a special remedy. More might be added as to the relative value of particular remedies; but enough has been already said practically to guide the judgment of all who may be called on to treat the disease.

TABULAR STATEMENT OF THE FORMS, CHARACTERISTICS, AND TREATMENT OF DELIRIUM TREMENS.

No. I. SIMPLE FORM.

Date	Name Age	No. of attack	Gen. Symptoms of Attack	Erethism (Charac. of)	Mental Alienation	Sensory and Motor Func.	Organic Functions	Treatment	Date of Amend.	Result
Feb. 24, 1835	W. J. 37	First	Severe pain in stomach after drinking; pain at base of skull; tremor of limbs	Peripheral and spinal	Fear of being murdered	Sensibility exalted (intermittent)	Tongue clean, great thirst, bowels loose, stools watery	General cold affusion, occasional purg. tinct. opii 3iij in mist. camph. every 4 hours, increased on 5th day (being violent) to ℥ss every 3 hours, with good effect	—	Cured.
Feb. 15, 1836	H. C. 39	Not known	Excitement, tremor, restlessness, insomnia, pain in joints	Cerebral	Rapid incoherent muttering	Hyperæsthesia of cereb. & its connect. with spi. cord, mot. power of lingual n. ex.	Natural.	General cold affusion, laudanum 3iss, morning and evening; sleep and coherency returned on fourth day	4th day	Cured.
May 31, 1836	D. B. 25	Not known	Vomiting, pain in stom., conv. starting of mus., frightful dreams	Cerebral	Psychical hallucination in dreams; supposed himself in prison	Convulsive twitching of muscles. No tremors	Tongue clean, stools nearly natural, pulse 74	Cold affusion, laudanum	—	Cured.
June 5, 1836	J. B. 35	Not known	Diarrhœa, epigastric pain and vomiting, broken slumbers, frightful dreams	Peripheral	Reverie; during sleep, dreams	Cerebral sens. exalted, motor funct. not affected	Tongue loaded, stools watery and yellow	General cold affusions, cal. and op. at bed-time, purgatives	—	Cured.
June 8, 1836	W. M'C. 36	First	Excitement, flushed countenance, eyes red and bloodshot	Cerebral	Spectral illusions; dreams	Motor function little disturbed, tong. tremulous	T. furred, yellow, thirst, p. 78, full, soft; sk. soft, very perspirable, appetite much impaired	General cold affusion, opium, occasional purgatives	4th day	Cured.

June 21, 1836	W. M. 29	First	Pain at vertex, tremor of tongue, wakefuln., pain in cardiac region	Cerebral	None	Motor funct. slightly affect.	P. 110, resp. nearly norm., t. load., yell.; bow. slightly derang.	Tart. emet. sol., purg. anod., doses of tinct. of op. and hyoscy. at bed time	4th day	Cured.
Aug. 23, 1836	Ditto	Second	Tremor, wakefulness, mental excitability, delirium 2d day of admis., languor	Cerebral	Not noted	Motor funct. more affected than before.	Bowels constipated	Cal. and op., with purg.; afterwards, tar. emet., laud., cold affus., brandy & water. Del. became intermit.	6th day	Cured.
Oct. 11, 1836	Ditto	Third	Anorx., watchfulness, trem. of t. & limb., nodel., slight headache	Peripheral	None	Motor funct. slightly affected.	Pulse 90, weak; bowels constipated	Tart. emet., cold affusion, occasional purgatives, and anod. of op. and hyoscy.	6th day	Cured.
Aug. 22, 1836	E. S. 26	First	Spasmod. pain of stomach, vomiting & purging, restless. Delirious 3d day, after appl. of a blister	Peripheral	Incoherent loquacity, spectral illusions	Motor funct. little disturbed.	Pulse 88, full, compressible; sk. soft, perspirable; ton. slight. coat.; bowels at first loose, then cons.	Warm bath, cal. & op., blister to epigas. After delirium, general cold affusion, laudanum, and occasional purgatives	4th day	Cured.
Dec. 4, 1836	G. P. 30	First	Excitement, insomnia, contracted pupils, bloodshot eyes, tremor	Cerebral	Suspicious dread of conspiracy against him	Motor function little disturbed.	Resp. normal, sk. soft, moist; p. 100, rising as excite. increased to 130; b. loose	Emet. anod., warm bath; afterwards start. emet. sol. every third hour, small quantities of gin and water, cold douche to head	4th day	Cured.
Mar. 11, 1837	Mr. W, 33	First	Tremor, wakefulness, agitated manner, a wild suspici. express. of countenance	Cerebral	Quite coherent, but troubled by imaginary voices	Not much disturbed.	Resp. normal, skin soft, bowels confined, tongue loaded	Purgatives, drachm doses of tinct. op. every hour till sleep was induced, cold douche to the head	5th day	Cured.
Feb. 10, 1837	M. S. 34	Second	Lost power of perception and attention, insomnia, numbness of limbs, and trem. after drinking	Def. cerebral sensibility	Incoherent imbecility	Slight tremor	Pulse small & feeble, respirat. and skin natural, tongue loaded and red at the edges	Opium, with calomel and purgatives; warm bath	2nd day	Cured.

No. I. SIMPLE FORM (*continued*).

Date	Name Age	No. of Attack	Gen. Symptoms of Attack	Erethism (Charac.) of	Mental Alienation	Sensory and Motor Func.	Organic Functions	Treatment	Date of Amend.	Result
Feb. 6, 1838	T. K. 40	First	Insomnia, loquacity, busy agitated manner, tremor, accomp. by cynanche tonsillaris after drinking	Cerebral	Spectral illusions; strange imagination that he had been burned to death on board ship	Tongue and hands very tremulous	Appetite good, bowels open, and tongue clean	Tartar emet. sol. with tinc. hyoscyam. every four hours, an opiate at bed-time, and one dose of castor oil	3rd day	Cured
Feb. 19, 1838	J. C. 45	Not known	Insomnia, restlessness, tremor and biliary purging after drinking; pain at nape of neck	Peripheral	Spectral illusions, suspicious dread of conspirators	Tongue tremulous, loaded	P. small, wiry; frequent sighing, copious cold perspiration, and increased biliary secretion, appetite good	Cal. and op. with purg., tart. emet. sol. with tinct. hyoscyam. Cold douche to head	2nd day	Cured
Mar. 19 1838	N. A. 38	Not known	Headache, tinnitus aurium, restlessness, red suffusion of eyes, suspicious look of dementia	Cerebral	Spectral illusions, suspicion of conspirators	Exalted sensibility, intermittent, slight tremor	Pulse and skin normal, tongue thickly loaded	Cal. & purgatives, tart. emet. sol. with anodynes	3rd day	Cured
Mar. 28, 1838	J. T. 49	Not known	Insomnia and tremor, nausea and irritability of stomach	Peripheral	Timid suspicion	Motor functions not much affected	Pulse, skin and respirat. normal, tongue clean, appetite good	Cal. and op., tart. emet. sol. and anod. Cold douche to head	3rd day	Cured
June 10, 1838	A. B. 36	First.	Insomnia, restlessness, spectral illus., trem. after drink.; nausea, irritab. of stom., pain of epigast.	Peripheral	Dreaming and spectral illusions	Convulsive twitching of muscles	Pulse and skin natural, tongue loaded	Emetic, purgatives, leeches to epigast., tart. emet. sol., with anod. and cold douche to the head	3rd day	Cured

June 19, 1838	J. A. 30	First	Insomnia, maniacal violence, incessant loquacity after drinking	Cerebral	Violent delirium, during fits of which, he wounded himself in several places	None.	Pulse full but soft, skin covered with perspiration	Tart. emet. sol., with anodynes every second hour; purgatives	2nd day	Cured
Feb. 10, 1837	M. S. 34	Second	Insomnia, lost power of perception and attention, numbness of limbs, tremor after drinking	Defective cerebral sensibility	Incoherent imbecility	Slight tremor	Pulse small & feeble, resp. and skin nat., tongue loaded in centre and red at margin	Cal. op. and purgatives; warm bath	2nd day	Cured
April 19, 1838	Ditto	Third	Childish imbecility, insomnia, and tremor after drinking	Ditto	Ditto	Ditto.	Ditto	Tart. emet. sol., with anod., diuretics and purgatives	6th day	Cured
April 24, 1838	J. H. 37	First	Insomnia, restlessness, perverted perception & slight nocturnal fever after drinking	Cerebral	Spectral illusion	None.	Resp. and skin normal, nausea, irritability of stomach, bowels loose	Tart. emet. sol., with anodynes, thrice daily; cold douche to the head	4th day	Cured
May 8, 1838	Ditto	Second	Insomnia, flushed countenance, throbbing in the head, frightful dreams, convulsive twitchings of muscles after drinking	Cerebral	Ditto	Convulsive twitchings	Skin bathed in perspiration, tongue foul, griping, and confined bowels	An emetic, purgatives and anodynes, tart. emet. sol. every 4 hours; cold douche to the head	9th day	Cured
Feb. 19, 1838	J. C. 45	Not known	Excitement, insomnia, restlessness, tremor, biliary purg. after drinking, pain at nape of neck	Peripheral	Spectral illusion, suspicion of conspiracy	Tongue tremulous	P. small & wiry, frequent sighing, appetite good, copious biliary secretion, tongue loaded	Cal. and op. with purgatives, tart. emet. sol. with hyoscyam.; cold douche to the head	2nd day	Cured

No. I. SIMPLE FORM (*continued*).

Date	Name Age	No. of Attack	Gen. Symptoms of Attack	Erethism (Charac. of)	Mental Alienation	Sensory and Motor Func.	Organic Functions	Treatment	Date of Amend.	Result
Mar. 19, 1838	N. A. 32	Not known	Heada., tinnit. aurium, susp. imbecile look, insomnia, rest., suffus. of eyes	Cerebral	Spectral illusion, and dread of a conspiracy	Slight tremor, sensibility alternately depressed and exalted	Pulse and skin natural, tongue thickly loaded	Calomel and purgatives, tart. emet. sol. with anodynes	3rd day	Cured
Mar. 28, 1838	J. T. 49	Not known	Nausea, irritability of stomach, insomnia, trem.	Peripheral	Mingled dread and suspicion	Motor function little affected	P., sk., resp. nat., tong. clean, appetite good	Cal. and op., tart. emet. sol. and anod. cold douche to head;	3rd day	Cured
May 26, 1838	J. C. 31	First	Insomnia, excit., slight headache, muscular starting, loquacity after drink.	Cerebral	None	Tremor and subsultus tendinum	Pulse and skin natural, tongue loaded, bowels confined	Tart. emet. sol. with anod. every 3 hours, purgatives, with croton oil; cold douche to the head	6th day	Cured
July 15, 1838	Ditto	Second	Insomnia, excitement, nausea, dilatation of pupils aft. drink.	Cerebral	None	None	Skin moist, tongue loaded, yell., bow. conf., urine scanty	An emetic, cal., James's powder and op., purgatives and warm bath	3rd day	Cured
June 4, 1838	J. S. 38	Second	Headache, insomnia, restlessness, and tremor after drinking	Peripheral	Frightful dreams and spectral illusions	Convulsive twitching of muscles	Pulse rapid, skin moist, nausea at stomach, tongue loaded	An emetic, with purg., tart. emet. sol. with anodynes; cold douche to the head	5th day	Cured
Nov. 2, 1838	H. H. 32	Not known	Insomnia, excit., flushed countenance, dilated pupils aft. drink.	Cerebral	Hallucination that he had been accused of murder	No tremor	P. freqt. and var., skin persp., tongue dark red, b. conf., ap. good	Cal. and purg. tart. emet. sol., with tinct. opii, cold douche to head	3rd day	Cured
Dec. 13, 1838	J. J. 38	First	Nausea, excit., flushed count., headache, insomnia, heat of skin after drink.	Cerebral	None, but manner suspicious	Slight tremor	Pulse soft, skin cool, bwls. open, tongue furred	Leeches to temples, cal. with tart. emet. and op. purg., cold douche to head, and anod.	3rd day	Cured

Dec. 13, 1838	R. M. 38	First	Insomnia, restless., loquacity and tremor after drink. Had inter. fever in July	Cerebral	Hallucination that he was pinioned	Tremor slight	Pulse 80, soft, skin cool, bowels confined, tongue clean	Cal. tart. emet. & op. purg., antimon. mix. with anod. every 3 hours, tepid douche to head, weak br. & w.	4th day	Cured
Dec. 18, 1838	J. J. 36	Not known	Insomnia, irritability of stom. and purg., tenderness of colon, and tremor after drinking	Peripheral	Muttering to himself, and catching at objects	Tremor	Pulse 60, soft, skin cool and moist, and covered with a thin yellow crust	100 leeches to abdom., cal. & op., carb. ammo. gr. x, with camph. mix. & brandy 4 times daily, mod. allowance of port wine & enem.	3rd day	Cured
Feb. 8, 1840	A. C. 38	Not known	Nervous depress. aft. drink., succeeded by insomnia, restlessness, and unmanage. violence of manner, with illus., after drink	Cerebral	Reverie and illusions	Restless agitated manner	Pulse variable, skin soft, bowels slow	Tartar emetic solut., with anodns., a small allowance of brandy, cold douche to the head, a purgative and enemata	3rd day	Cured
April 5, 1840	W. E. 29	Not known	Nervous depress. aft. drink., followed by excitability and illusions	Cerebral	Reverie and illusions	No tremor	Pulse variable, skin warm and perspirable, tongue loaded	Cal. & op., cast. oil, tart. emet. sol., with anod., cold douche to head, small allow. of brandy diluted	3rd day	Cured
April 8, 1840	J. T. 26	Not known	Nerv. depres. after drink., and cessa. from hab. op.-eating, succ. by irrit. of stom., insom., restless., and illusions	Cerebral	Illusions of the usual character, red suffusion of the sclerotic coat of the eye	No tremor	Pulse feeble, skin cold and damp, tongue foul	A blister to the epigast., efferves. drts. with an oz. of brandy & a drm. of tinct. op. every 3 hours, cal. & op. with cast. oil, cold douche to the head	4th day	Cured
April 14, 1840	J. K. 24	Not known	Insomnia, restless., and delir. after drinking	Cerebral	Busy delirium	Much tremor	Pulse feeble, skin covered with clammy perspiration	Purg., tart. em. sol., with tinct. op. & diur., br. & water in mod. quant., cold douche to head, & sul. quin. sol.	9th day	Cured

No. I. SIMPLE FORM *(continued)*.

Date	Name Age	No. of Attack	Gen. Symptoms of Attack	Erethism (Charac. of)	Mental Alienation	Sensory and Motor Func.	Organic Functions	Treatment	Date of Amend.	Result
April 22, 1840	C. F. 31	Second	Insomnia, restlessness, and delirium after drinking	Cerebral	Busy delirium	Much tremor	Pulse feeble, skin cover. with clammy perspiration	Purg., tar. em. sol., with tinc. op. & diur., brandy & w. in mod. quant., c. douche to head, sulph. quin. sol.	9th day	Cured
May 14, 1840	T. R. 42	Not known	Incoherent loquacity, tremor, insomnia, and epigastric tenderness after drinking	Peripheral	Incoherent loquacity	Much tremor	Pulse small and feeble, stomach irritable, bowels loose, tongue coated yellow	Leeches & blist. to epigast., cal. and op. with purg., effervesc. draughts with tinct. op. and diuret., cold douche to the head	6th day	Cured
May 31, 1840	W. C. 33	Not known	Insomnia, excited agitated manner, tremor, illusions after drinking, epigas. pain, red suffus. of the eyes	Cerebral and peripheral	Illusions of the usual character	Much tremor	Pulse soft and frequent, skin moist and cool, tongue white, anorexia	Cal. camph. & op., with purg., blister to nape of neck, leeches to epigast., w. bath & c. douche to head, tar. eme. sol., with tin. op. diuret., sul. quin. sol.	4th day	Cured
July 20, 1840	T. E. 29	Not known	Insom., impatient agitat. manner, illus., trem., epi. pain, dilated pupils aft. drink.	Cerebral	Illusions of the usual character	Tremor not great	Pulse small and feeble, skin covered with perspiration, bowels confined	Cal., James's pow., op. & purg., w. bath and c. douche to head, tart. emet. solu. with tinct. op., brandy & w.	4th day	Cured
Aug. 6, 1840	C. M. 47	Not known	Incohe. mutt., fidgetty employ. of hands, as if drawing threads from ends of fing. trem., inso., abd. tend. aft. drink.	Cerebral and peripheral	Illusions and mental incoherence of an intermittent character	Tremor	Pulse of variable frequency and strength, skin moist, bow. loose, and vomiting of dark bilious matter	Leeches to epigast. and a blister to the nape of neck, calom., hydrochlor. of morphia, with purgatives, cold douche to the head, port wine	—	—

No. II. INFLAMMATORY FORM.

Date	Name Age	No. of Attack	Gen. Symptoms of Attack	Erethism (Charac. of)	Mental Alienation	Sensory and Motor Func.	Organic Functions	Treatment	Date of Amend.	Result
Dec. 14, 1828	T. F. 44	First	Hepatic tenderness, wakefulness, delirium, tremor	Peripheral, ending in encephalitis tremulenta	Thought he had seen the V. Mary, loquacious, restless, impatient	Tightness of head, transient tremor	Tongue dry and parched, slight diarrhœa, biliary secretion dark green	Leeches and blister to side, cal. as purg., bleeding for injury of head, cold lot. to head, camph. and op., mer., leeches and blister to head for hepat. tend. and tightness in head		Cured
April 18, 1836	E. D. 33	Not known	Wound of elbow joint, violence, incoherence, screams	Cerebral, traumatic delirium	Maniacal violence, muttering	Tremor, convulsive twitching of muscles, contraction of pupils	Tongue dark red, much thirst, urin. sec. affec., p. 100, of mod. strength; persp. copious, clammy; resp. diffi. on 18th day when mind was collected, cough, purulent expectoration, scrofulous constitution	General cold affusion, leeches to temples, blister between scap., tinct. muriat. morph., purgatives		Died 18th May. Tubercles in lungs.
Aug. 12, 1836	W. K.		Diarrhœa, shivering tremor, fluttering feeble pulse. On fourth day, delir., pain in right breast on inspiration, uneas. in spine	Cerebral and spinal	Incoherent loquacity, fancied his bed was being pulled from under him	Intermittent exalt. sens., motor funct. not much affected, pupils contracted	Pul. 120 after delir., frequent sighing, occas. dry skin, respir. oppressed on admission, bowels conf., epigast. tender, urine in mod. quantity	Warm bath, cal. op. and ipecac. at admission; after delirium, cupping to spine and epigast., tart. emet., tepid affusion and laudanum at bed-time	2nd day	Cured

No. II. INFLAMMATORY FORM *(continued)*.

Date	Name Age	No. of Attack	Gen. Symptoms of Attack	Erethism (Charac. of)	Mental Alienation	Sensory and Motor Func.	Organic Functions	Treatment	Date of Amend.	Result
Feb. 2, 1838	S. B. 44	Not known	Insomnia, impatient violence and tremor after nausea, hiccup, vomiting & feeling of nervous depression	Peripheral and cerebral	No delirium, but restless impatience	Tongue tremulous	Pulse full and strong, skin covered with moisture, bowels constipated, inspiration painful.	An emet. at admis. with purgat. of cal. castor and croton oil, cold douche to head, leeches to left chest, tart. emet. sol. and tinct. morph. Collapse on third night, death soon after		Died. Effusion of blood on dura mater, venous congestion of cerebral membr., serous effusion into subst. of brain, pulm. apop. left lung, lymph effused between pleuræ on both sides
Oct. 13, 1836	W. M'C. 36	Second	Acute epigast. pain & tend. increased by deep inspiration, occas. cough and viscid mucous expector. dulness at fifth rib in right pect. region, absence of respiratory murmur, slight dilatation of ribs, puerile inspiration in left lung, wakefulness, then delirium, collapsed features	Peripheral	Muttering delirium	Motor functions little disturbed	Pulse 120, soft, respiration quick and painful, skin soft, perspirable; tongue coated, yellow; abdomen distended with flatulence, bow. loose, stools dark green, biliomucous	Leeches to epigastrium, cold douche to head, tartar emetic, calomel and opiates		Died on 4th day. Pleur. pulmon. vascular over mid. lobe of right lung, which was hepatized; fibrinous coag. in all cavities of heart, muc. coat of stom. uniformly diffused redness, liver vertically enlarged, 9lb. 12oz.

Oct. 23, 1838	G. O. 20	First	Insom., severe front. headache, dilatation of pupils and intolerance of light, epigastric pain, and numbness of limbs after drinking	Cerebral and peripheral	Incoherent wandering of thoughts	No tremor	Skin alternately cool, moist, and dry, warm; pulse 104, sharp, tongue furred and red at edges, urine scanty and hot, slight cough, painful inspirat.	Leeches & blist. to epigast., 1 gen. bleed. to 20 oz., w. bath & c. douche to head, blist. to nape of neck, merc. to consti. effect, tart. emet. & op., afterw. comb. with sul., quin. and aloes, diuretics	11th day	Cured
May 28, 1840	P. C. 25	Not known	Insomnia, incoherent loquacity, vertigo, pain at the vertex of head, abdominal tenderness after drinking, pupils dilated	Cerebral and peripheral	Incoherent loquacity, with hallucination of being on board ship	No tremor	Pulse small and feeble, skin cool, tongue furred and red at the edges, anorexia	Leeches to epigast. and right side, merc. to its constitu. effect, purg., warm bath and cold douche to head, camph. mixture with tinct. op. and diuret., sago and wine	7th day	Cured

No. III. PYREXIAL FORMS.

Dec. 26, 1823	A. D. 34	First	Inflam. of foot, delir. on 29th, insomnia, anxiety, restlessness	Peripheral	Thought himself about ord. duties, mutt., del. hurry, anx	Tremor of hands slight	Pulse full, skin hot, bowels conf. motions dark yellow	Venesect. to ℥xvj, leeches to head, camphor and opium	—	Cured
Nov. 19, 1836	J. C. —	Not known	Insomnia, flushed counten., agitated manner, & trem. aft. drink.	Cerebral	Intermittent reverie, fear of conspirators	Musc. of arms tremulous	Respiration natural, bowels constipated	Tar. eme. sol. twice daily, with cold affu., anod. at bed-t., purg., latterly sul. quin. sol.	7th day	Cured
July 31, 1837	J. P. 33	First	Vertigo, languor, nau., vom., cold skin, violent del., flush. coun., trem., freq. firm p. 3d day aft. ad. Prev. in hosp. for remit. fev. accom. with tremor	Cerebral	Spectral illusions, violent delirium, dread of conspirators	Motor functions not much affected	Pulse rapid, feeble, respirat. natural, skin at first cold, afterwards warm and bathed in persp., ton. thickly fur., urgent thirst, defect. appetite	Purgat. at admission, blister to nape of neck, cold douche to head, pills of calom., tart. emet. and op. after delirium	5th day	Cured

No. III. PYREXIAL FORM *(continued)*.

Date	Name Age	No. of Attack	Gen. Symptoms of Attack	Erethism (Charac. of)	Mental Alienation	Sensory and Motor Func.	Organic Functions	Treatment	Date of Amend.	Result
Jan. 9, 1838	S. H. 41	First	Insomnia, flushed countenance, excitement, and tremor	Cerebral	Thought distressed and anxious, accompanied by muttering, continued dread of conspirators	Motor funct. not much affected	Pulse frequent, wiry, skin moist, respirat. normal, bowels confined	An emet. at adm., tart. emet. sol. and anod.; after inc. symp. on 3rd day, cal. tart. emet. and op., cold douche to head, and allow. of bitter beer	4th day	Cured
April 6, 1838	T. W. 39	Not known	Insomnia, restlessness, & trem. after drinking; much frontal headache and pain at base of occiput	Cerebral	Spectral illusions, dread of conspiracy, frightful dreams	Starting of muscles	Cough with febrile parox., tongue furred, bowels confined, urin. sec. scanty	Cold douche to head and warm bath, purg. and colchi. with other diuretics and anod., repeated leeching and cupping at base of occiput	35th day	Cured
July 13, 1838	A. O. 47	Not known	Headache, insomnia, spectral illusion & tremor, with febrile paroxysm	Cerebral	Muttering, delir., spectral illusions, kicking at bedclothes	Subsultus tendinum	Pulse variable, from 96 to 120, skin alternately hot and perspir., tongue clean, tremulous, urin. scanty	Camphor mixture, antim. wine, diuretics, cold douche to head, leeches to temples, blister to nape of neck. Died comatose after 3 drachms tinct. opii, given to produce sleep		Death 3rd day. Venous congest. of pia mater, much serous effusion between it and tunica arachnoidea and into the ventricles, vascular redness of mucous coat of stomach, and intestinal canal, substance of kidney converted into uniform fleshy mass.

Aug. 12, 1838	A. W. 38	First	Pain in temples and base of occiput, extending down the neck, insomnia, flushed countenance, indistinct pyrex. parox., of a rheumatic diathesis and intemperate	Cerebro-spinal	Muttering, delirium	Mot. funct. not noted	Pulse frequent, feeble, skin cold and covered with perspirat., ton. slightly furred and red at edges	Blister to head and nape of neck, camph. mixture, with antim. wine and colchicum, other diuretics, latterly cal., with aloes and small doses of sulphat. quinine	—	Death 3rd day. Vasc. red. of cereb. membr. and subst. of brain, milky opacity of arachnoid, thickening of pia mater, which, at the optic thalami, chiasma of optic nerves, crura-cerebri, pons Varolii, & med. oblon., was adhe. by a thick lay. of lym.; serous effu. into theca vertebr., cont. flakes of lym.
Mar. 14, 1839	F. H. 29	Not known	Insomnia, restlessness, illusions and tremor, with irritability of the stomach after drinking	Cerebral and peripheral	Illusions and mental incoherence of an intermittent character	Tremors	P. variable in freq. & stren., sk. gen. moist, sometimes dry, bow. conf., attend. by abd. tend. & anor. tongue coated	Leeches & blist. to abdomen, cal. and op. with purgat., w. bath & c. douche to head, tart. emet. sol., tinct. op., sulph. quin. mixt., sago and wine	16th day	Bright's dis. of kid. Cured
No. IV. EPILEPTIC FORM.										
April 4, 1838	J. B. E. 46	Not known	Insom., restles. flushed counte., bloodshot eyes, dilat. pupils, pain at base of occip., irritabil. of stom. aft. drink. Two epilep. fits day of admiss., another the 3rd day	Cerebral and spinal	Impatient but manageable delirium, muttering and kicking at the bedclothes	Vertigo and convulsive twitching of muscles	Skin warm and dry, resp. not much affected, tongue loaded, bowels constip.	Leeches to temples, blister to nape of neck, cold douche to head, calomel, with tartar emetic, opium and purgat. Death on tenth day by an epileptic fit	Death. Red vascul. and thickening of pia mater, opacity of tunica arach. and much serous effu. into sub. of brain, old adhes. of left lung, fatty degen. of r. side of heart & soften. of l., fibr. polypi in lft. ventric., thick. of aorta, enlar. of liv. & red vasc. of muc. mem. of stom.	

No. IV. EPILEPTIC FORM *(continued)*.

Date	Name Age	No. of Attack	Gen. Symptoms of Attack	Erethism (Charac. of)	Mental Alienation	Sensory and Motor Func.	Organic Functions	Treatment	Date of Amend	Result
June 28, 1838	W. K. 38	Fourth	Insomnia, restlessness, and mental hallucination for several days before admission, caused by hard drinking, for which he had taken an emetic, and been bled and leeched	Cerebral	Mental hallucination of the usual character	Not noted	Not noted	Tartar emetic sol., with tinct. hyoscyam. every second hour. Became very restless and incoherent on second night after admission, and died suddenly in a fit		Died 2nd night. Vascul. redness of, cerebral membra., much serous effus. into the ventricles & at base of brain; heart enlarged and soften., semi-lunar valves of aorta ossified; posterior portion of lungs gorged with blood; muc. coat of stom. pale and softened.
April 28, 1839	W. M'D. 35	Fourth	Restlessness, flushing of countenance, bloodshot eyes and tremor after drinking. Pain at nape of neck	Cerebral	None	Tongue and limbs tremulous	Tongue loaded, thirst great, stools dark bilious	Cal., James's powder and purgatives at admission, leeches to nape of neck	3rd day	Cured
May 12, 1840	J. N. 36	Not known	Insomnia, pallor of countenance, and extreme tremor, after drinking	Cerebral	Illusions of usual character	Excessive tremor of tongue and limbs, convuls. fits. of epilep. char., after one of which he became quite rational	Pulse frequent, feeble, skin cold and moist, tongue loaded	Cal. and opium followed by castor oil at adm., small quant. of tart. emet. sol., with tinct. hyoscy., brandy punch, cold douche to head and sinapisms to feet. Died in an epileptic fit on 2nd day		Death. Permission to examine the body not obtained

May 18, 1840	C. W. 38	Not known	Severe frontal headache, accompanied by heat and dryness of skin, uneasiness in loins, and much tremor after drinking	Cerebral	None	Extreme tremor	Pulse small and feeble, skin dry, tongue coated white, bowels confined, urine scanty, hot	Cal. with ipec. and hydrochlor. morph., castor oil, warm bath, effervesc. draughts, with diur., cupping and leeching of temples, blister to nape of neck, cold douche to head. Death by epileptic fit on second day		Death. Fatty lesion of cortical subst. of both kidneys, extend. into tubular portion between the calices; liver much enlarg., muc. coat of stom. of grey leaden col., lungs emphysem. and congested as in asphyxia, mod. congest. of cerebral vess., serous effus. between arachnoid and pia mater.
June 5, 1840	W. A. 37	Not known	Epigastric pain and vomiting, followed by insomnia, pallor of counten., dilated pupils, illusions, general excitement, and tremr. after drinking	Cerebral and peripheral	Illusions of usual character	Much tremor of hands, and occas. cramp	Pulse feeble, skin covered with perspiratn.	Blister to epigast., cal., ipecac. and hydrochlor. morph., castor oil, small quant. of brandy and water, with tinct. opii, local abstraction of blood from nape of neck by cupping, cold douche to head and hot foot-bath. Died on third day		Death by epilep. Arboresc. vascularity of cereb. mem. more than normal proport. of bloody points on incised sub. of brain, which was softened, much serous effusion into ventricles, liver much enlarged, lungs distended as in asphyxia.
April 7, 1840	J. D. 36	Not known	Insomnia, excitement, trem., illusions & much irritability of stomach after drinking	Cerebral	Illusions of usual charac., temp. insens. of pupils of eye, following convulsions, count. flushed	Extreme tremor, and impaired muscular power of the right side	Pulse feeble, skin moist, tongue clean, bowels open	Emet. of sulph. zinc, blisters to epigast. & nape of neck, efferves. drats. with br. & nit. ether, afterw. antim. mix., with tinct. op. & cold douche to head	3rd day	Cured

CLINICAL ILLUSTRATIONS OF DISEASES OF THE NERVOUS SYSTEM; AND OF OTHER AFFECTIONS SIMULATING THEM DURING LIFE.

By ROBERT HUNTER SEMPLE, M.D.

[*Read before the Westminster Medical Society, March* 16, 1850.]

Notwithstanding the rapid advances which medical science has made of late years, the subject of Cerebral Diseases lies still wrapped in considerable doubt and uncertainty. The pathology of such affections is often ill-defined, the diagnosis obscure, and the treatment very unsatisfactory. It is therefore with great diffidence that I offer my humble contribution to this department of practical medicine; and I am compelled to admit, *in limine*, that the cases and the remarks which I am about to offer will, in some instances, rather increase than diminish the difficulty of investigations connected with the Diseases of the Brain. But I believe, that a full confession of ignorance is one step towards the acquisition of knowledge; and that a careful consideration of *facts*, although it may increase our scepticism as to the opinions and theories developed in some books, will not make us less efficient practitioners of the healing art. I believe that medicine, as a science, is far from being complete; and that, like geology, it consists, at present, of a vast multitude of *facts*, collected by the labours of faithful observers, which are now being grouped together and arranged, and may some day be reduced to a definite system.

With these observations, I proceed to the immediate purpose of this paper; and I may mention, as an apology for entering upon so difficult a subject, that I have had considerable opportunities, during many years' connexion with a large public practice, of investigating the Diseases of the Brain and Nervous System, during life and after death; and the difficulty of the subject has, in my mind, invested it with particular interest. The remarks which I am now about to offer, are altogether practical, and I shall relate only such cases as have come under my own notice.

The *Diagnosis* of cerebral disease is exceedingly difficult, and no very definite rules can at present be laid down for the guidance of the practitioner. The most formidable symptoms are sometimes unaccompanied with any perceptible organic lesion; while at other times, the most serious and extensive alterations of the cerebral structure have given rise to no symptoms whatever during life. These remarks will be illustrated by the two following cases:—

Case I. Extensive Disease of the Brain, without any Symptoms during Life. F. C., æt. 61, a pauper in the Islington Infirmary, had always enjoyed good health, and never applied for medical relief, except upon one occasion, for a slight ulcer on one of his legs, which was speedily healed. On Monday, March 21, 1842, he was in his usual state of health, when, after taking his tea, he complained of general pain and uneasiness; and, before any assistance could be rendered, he expired. A post-mortem examination was made four days after death, when the following appearances were observed:—*Head.* There was considerable congestion of the scalp; the dura mater was in some parts

adherent to the inner surface of the skull, and congested. On the surface of the left hemisphere, beneath the dura mater, and above the arachnoid membrane, there was found an adventitious membrane, perfectly organized, of a tough consistence, similar to the buffy coat of blood, thick in the central portions, and gradually becoming thinner at the sides and ends. In the thickest part, the thickness was about three lines: the whole membrane was seven inches long, and two and a half broad, and completely concealed the left hemisphere of the brain, which was flattened and compressed where it lay beneath it. On the upper surface, this adventitious membrane exhibited a dark red appearance, the under surface was more pale. On closer examination, it was found to consist of two layers, enclosing a cavity of considerable size between them. Both the upper and under surfaces were perfectly smooth and polished, and corresponded to the two layers of the arachnoid membrane. The arachnoid membrane beneath this adventitious formation, and also on the other side of the brain, was thickened and opalescent; and a considerable quantity of thin, serous fluid, was found lying beneath it, as well as in the ventricles. The minute vessels of the brain were congested, but the substance of the organ itself was of healthy structure and consistence.—*Chest.* The left lung exhibited some old adhesions, and the cavity of the right pleura contained a considerable quantity of thin, serous fluid; the bronchial tubes were congested. The heart was rather above the natural size; and the parietes of the left ventricle were thickened; there was also a slight thickening of the aortic valves, but the aorta itself was quite healthy; as were also the other valves. The viscera of the abdomen were all generally healthy.

Remarks. Whatever may have been the cause of this man's sudden death, it is evident that a large adventitious growth must have existed for some years upon his brain, without producing any symptoms during life. It appears to me that the above case was, originally, one of true arachnitis, attended by the effusion of coagulable lymph, which eventually became organized, then separated from the membrane by which it was first secreted, and formed the adventitious growth above described; but Mr. Solly, who describes a somewhat similar case, considers the appearance to be due to a coagulum of blood, the colouring matter of which has been absorbed.

Case ii. Acute Meningitis without any Symptoms of Cerebral Disease during life. Sarah C., æt. 20, was attacked with peritonitis on the 8th of March, 1842, and was discharged cured, on the 20th of the same month. She was again attacked with illness on the 26th of April, when I was called to see her. She was then lying in bed, complaining of great pain in the abdomen, which, however, was not aggravated, but relieved, on pressure; pulse feeble; tongue slightly furred. She was ordered to take five grains of calomel and fifteen of jalap, and a draught every four hours, consisting of half a grain of emetic tartar with Epsom salts and infusion of senna. She was much relieved by taking these medicines, and seemed to be rapidly recovering. On the 29th of April, she again applied for medical relief. She was now sitting up, and complained only of pain in the abdomen, not increased, but relieved, upon pressure. As I felt pretty certain that the pain was not owing to a

fresh attack of peritonitis, I treated it as if it were neuralgic, and ordered a draught to be taken every four hours, consisting of ten minims of tincture of opium, with half a drachm of Epsom salts and an ounce of infusion of senna. On the 30th, she was worse; pain in the abdomen still very severe, but relieved upon pressure; bowels confined, much vomiting, some thirst, pulse feeble. She was now ordered to take four grains of calomel in sugar, every four hours. At half past six the same evening, she was much worse; she screams out in consequence of the severity of the pain, which, however, is still relieved upon pressure; pulse 120, not full or strong; has vomited all the powders and the mixture, and cannot retain even toast and water on the stomach; tongue white and furred. To take immediately, a pill, consisting of five drops of croton oil with five grains of rhubarb. This pill was rejected in a quarter of an hour. At half past nine the same evening, is worse; has constant vomiting, but no alvine evacuations, and still complains of excruciating pain. Under the impression that the symptoms were owing to some obstinate intestinal obstruction, she was ordered to have a clyster administered, consisting of gruel and salt; she was also ordered to take a minim and a half of hydrocyanic acid (Scheele's strength) immediately, and, if rejected, to be repeated until the vomiting should be allayed. A blister was also applied to the epigastrium, and a powder was given, consisting of ten grains of calomel and one of opium. The blister caused a little vesication; the clyster brought away no feculent matter; the hydrocyanic acid draughts were nearly all thrown up: and the powder of calomel and opium was likewise rejected. She continued in great pain during the whole night, but retained her intellect throughout; and when asked if she felt any pain in her head, she replied that she did not. She died at eight o'clock the next morning, only two days from the fatal seizure. A post-mortem examination was made twenty-three hours after death, when the following appearances were observed:—

Head. The scalp, skull, and dura mater, presented no morbid appearances. The vessels of the arachnoid membrane and of the pia mater were very minutely injected, presenting a highly inflammatory appearance. The former membrane was thickened and opalescent, and a quantity of serous fluid was poured out upon making an incision. There was about an ounce and a half of thin serum in the cavity of the skull and theca vertebralis. The ventricles contained rather more than the natural quantity of thin, serous fluid. The brain itself was of natural colour and consistence, except that, on cutting into the white matter, a great number of small bloody points were discernible.

Chest. There were no remarkable appearances in the cavity of the chest, with the exception of some congestion of the bronchial tubes, connected with an attack of bronchitis, for which I had attended her about a month before her death. The heart was perfectly healthy throughout.

Abdomen. The liver was quite healthy; there were some adhesions between this organ and the parietes of the abdomen, resulting, of course, from the attack of peritonitis above mentioned. The stomach contained only some gruel and toast and water; its mucous membrane was generally quite pale, with the exception of a few patches of congestion. The intestinal canal was healthy throughout, and contained only a moderate

quantity of gas, and some feculent matter in no great abundance, and of the natural appearance. No ulceration, constriction, or dilatation, could be discovered anywhere, after the most minute and careful examination. The peritoneal surface of all the viscera was generally healthy, with the exception of a few slight adhesions, the results of the attack of peritonitis from which she had entirely recovered. The pancreas, spleen, and kidneys were healthy. The uterus was small and healthy; the right ovary was very much dilated, being as large as a hen's egg, and when opened, it was found to contain about an ounce and a half of pus, which was enclosed in a sac lined by a smooth membrane. There was no effusion whatever into the peritoneal cavity.

Remarks. It is very difficult to explain the cause of the symptoms and the rapid death of the patient; and I can come to no other conclusion upon this very curious and anomalous case, than that this young woman's death was caused by an attack of meningitis, the peculiar symptoms of which were wholly absent during life. In the heart and lungs, there was no morbid appearance sufficient to account for the fatal result; nor was there detected in the abdominal cavity any indication of disease, which could explain, satisfactorily, the horrible pain which she experienced in the abdomen, to which region she referred the whole of her malady. The suppuration of the right ovary, which was probably contemporary with the previous attack of peritonitis, was the only important morbid appearance in the abdominal cavity; and, as this abscess did not in any way communicate with the surrounding parts, it cannot, I think, be considered as the cause of death. The greatest pain was felt at the epigastrium, and pressure over the whole of the abdomen was attended with relief, not with aggravation of the symptoms; and I therefore refer it to nervous sympathy with the diseased membranes of the brain.[1]

After relating the above cases, in the first of which there were no symptoms at all during life, and in the second the symptoms were referred to a totally different region, I need hardly refer to others where the most excruciating pain has been felt in the head, and where, nevertheless, upon the death of the patient, no cerebral disease whatever has been manifested. In the following case, it will be perceived that the most marked symptoms of cerebral disease existed during life, and yet no structural disease of the brain was discovered.

Case iii. Disease of the Kidney with Albuminous Urine, simulating Cerebral Disease. Elizabeth W., æt. 70, an inmate of the Islington Infirmary, was first seen by me on the 6th of January, 1848. I found her labouring under symptoms which appeared to indicate a cerebral affection. She was occasionally violent, uttering loud noises, and complaining of great pain in the head; pupils fixed, somewhat dilated; tongue brown, dry, and cracked; great thirst; pulse about 104, very weak and irregular. The limbs were in a state of spasmodic rigidity, resisting every effort to change their position. I recommended her head to be shaved, and a blister to be applied to the nape of the

[1] I confess that I have still some doubts as to the real nature of this case; but whatever may be its true pathology, I can vouch for the strict accuracy of all the *facts*. R. H. S.

neck, and one to each temple. On the 8th of January, she was rather better, and more quiet; the rigidity of the right arm had disappeared, and the left was now rigid, with the fingers extended and separated. Her urine was passed under her, and none could therefore be collected for examination. On observing this woman, on several successive days, it was found that the rigidity of the limbs was not constant, but varied on different days, sometimes existing on one side, sometimes on another. She remained in a hopeless state, with a fluttering, irregular pulse, and dry cracked tongue; the intellect was wandering, but she sometimes put out her tongue when asked to do so, and sometimes she answered questions. She lingered till January 15, when she died.

Post-mortem examination. Head. The scalp and skull were healthy; the dura mater was rather congested; the arachnoid membrane presented no morbid appearance; the surface of the brain was healthy. The brain itself was found to be healthy throughout, and of firm consistence. *Chest.* The heart and lungs presented no peculiar appearance, except that the former was somewhat thickened, and the mitral valves were slightly diseased. *Abdomen.* The liver was of natural size, and of nutmeg appearance. The kidneys were small, and their proper coat easily separated, exhibiting a pale, mottled appearance beneath; the substance of each kidney was firm, but granular and pale. Some urine was taken from the bladder and examined. I should here observe, that there was no opportunity afforded for examining this fluid during life, as it dribbled away from her without any apparent consciousness on the part of the patient. The urine was turbid; and on the addition of nitric acid, a copious deposit was produced, which was increased by heating the mixture. Corrosive sublimate also threw down a copious white precipitate. A small portion of the urine was examined by the microscope, and it exhibited the tubular casts which are frequent in albuminous urine accompanying renal disease.

Remarks. This case, therefore, which during life exactly resembled one of structural disease of the brain, was really one of poisoning of the blood by urea. There can be no doubt that the *simple apoplexy*, as it is called, is the result of albuminuria; the albumen of the blood in that disease being excreted by the kidneys, and the urea of the urine remaining in the blood, and acting as a poison to the nervous centres. This case is remarkable for the spasmodic rigidity exhibited by the muscles, a symptom which is often described as characteristic of cerebral softening; whereas in death from albuminuria, the patient is generally in an immoveable or comatose condition.

Case iv. Epilepsy attended by Hypertrophy of the Cranial Bones. Margaret Y., æt. 46, formerly a servant, was obliged to leave her place, many years ago, in consequence of frequent attacks of Epilepsy. She was for many years a patient in the Islington Infirmary, and under constant medical treatment for the above disease: the fits were frequent, occurring at irregular intervals, and of a very violent character. In the intermissions between the fits, her health was tolerably good, with the exception of occasional headache; her intellectual faculties were quite unimpaired. As she always derived benefit from blood-letting, her disease was considered to be of a congestive character, and a strict antiphlogistic regimen was adopted and maintained. She was on several

occasions cupped between the shoulders; blisters were applied, and kept open in the same situation, and purgatives were administered. Her diet was of the lightest character; no solid food or beer was allowed, and she derived her support entirely from milk, eggs, bread, and thin broth, or beef-tea. This treatment continued for several years with some advantage, but no decided improvement. In May 1842, the fits became more frequent and severe, typhoid symptoms supervened, and she died.

Post-mortem examination. The body was plump and well-formed, and there was a layer of fat beneath the skin, about three quarters of an inch in thickness over the abdomen; a rather remarkable fact, considering the tenuity of her diet. *Head.* The scalp was natural. The skull externally presented no peculiar appearance, and no difficulty was experienced in sawing it through. On removing and examining it, however, it was found that there existed a remarkable want of uniformity between the two surfaces of the skull in some parts, owing to thickening of the osseous structure, particularly of the internal table, which, instead of being thin and brittle, was thick and solid. Along the line of the circular incision made by the saw, the skull was of about the average thickness. The os frontis was then sawn through, immediately in front of the coronal suture. Along the line of incision made in the usual process of removing the calvarium, the thickness of the cranium was one line and a half; but the part corresponding to the right frontal eminence was half an inch thick; and the same part, on the left side, was five lines in thickness. All the prominent bony processes were much increased in thickness and asperity, as the crista galli, the posterior clinoid processes, the bony ridge of the petrous portion of the temporal bone, the ridges on the internal surface of the occipital, etc. The dura mater was congested; the vessels of the arachnoid membrane were also congested, and the membrane itself opaque and thickened; beneath the arachnoid there were two or three drachms of bloody serum. The brain was flattened in front, the flattening exactly corresponding to the thickening of the internal table of the skull. The substance of this organ was very firm in its consistence, and the grey part was of an unusually dark colour; in other respects it presented no remarkable peculiarities. The other organs were carefully examined, but no morbid appearances of importance were discovered.

Case v. Hydatids lying beneath the Arachnoid Membrane. Elizabeth B., æt. 46, an inmate of the Islington workhouse, of diminutive stature, of bloated, leucophlegmatic appearance, and of rather torpid intellect, who, although long a resident in the workhouse, had not suffered from any remarkable ailment, was brought to the surgery on Monday, Dec. 28, 1846, in consequence of serious illness. At that date, her face was swollen, the lips were livid, and the whole body was anasarcous. She complained of cough and difficulty of breathing, and general uneasiness. On examining her chest, I found no morbid sound over the region of the heart; but sibilant râles were heard over the region of the lungs. She was ordered some medicine, and to be removed to the infirmary. The next day, she was much worse, the bloated anasarcous appearance still remained, and, in addition, she seemed to be sinking into a state of coma, her breathing being sterto-

rous, her pulse very feeble, and her extremities cold. An attempt was made to administer some medicine, but she was unable to swallow. Mustard poultices were ordered to the feet. The pulse, however, became wholly imperceptible, the breathing quiet, the pupils in a fixed state between contraction and dilatation, and she died Thursday, Dec. 31.

Post-mortem examination. The body, generally, was œdematous; the subcutaneous areolar tissue being infiltrated with serum.—*Head.* The scalp and skull presented no morbid appearance, but the surface of the dura mater exhibited considerable congestion. The arachnoid membrane was generally healthy and transparent, and only a small quantity of fluid was effused between its layers. On examining the surface of the brain beneath the arachnoid membrane, I observed some semi-transparent masses in one or two places: I at first considered them to be local effusions of serum, but on examining them more closely, I found that they could readily be detached from the surrounding tissues, and were, in fact, hydatids, each consisting of a flask-shaped mass, having a thick skin and gelatinous interior. I now instituted a diligent search for these hydatids in all parts of the brain. Many of them were found on the exterior, lying between the sulci, and overlapped and hidden by the convolutions, all being beneath the arachnoid membrane. One hydatid was found lying free and unattached in the left ventricle; this was much softer than the others, and resembled a small oval mass of jelly of a yellow colour; another, much smaller and rather hard, was found lying upon the optic nerve, on the right side, at the part where the nerve winds round the crus cerebri. Altogether, about eighteen of these hydatids were collected, varying in size from that of a bean to that of a small pea; there were also a number of others scattered about in various parts of the brain, but so small, that they could not be extracted entire. They did not exist so abundantly in the white as in the cineritious substance, and they were wholly wanting in the cerebellum. No hydatids were found in any other part of the body. *Chest.* The heart was quite healthy. The lungs were also healthy, except that the mucous membrane of the bronchial tubes was thickened and reddened, and contained a considerable quantity of frothy mucus. *Abdomen.* The viscera of the abdomen were all healthy. As the bloated anasarcous appearance of this woman gave rise to some suspicion of renal disease, the kidneys were carefully examined, but were found perfectly healthy.

Some of the hydatids were sent to my friend Dr. Sharpey, who recognised them as examples of the *cysticercus cellulosæ*; and the specimens are now preserved in the museum of University College, London.

Remarks. The presence of hydatids in the brain is, no doubt, a very rare occurrence; and although the fact of their existence in that organ has been mentioned by some writers, yet it would appear that they have often been confounded with common cysts, and that, in particular, a beaded or vesicular appearance of the choroid plexus has sometimes been mistaken for a cluster of hydatids. I have, however, seen a coloured plate, by Dr. Carswell, in the museum of University College, which represents a number of subarachnoid hydatids, similar to those which I have above described. Dr. Copland, in his excellent *Dictionary*, article "Brain," mentions the fact of the existence of hydatids on the surface of the brain, but does not quote any case from his own experience.

Dr. Abercrombie, in his work upon the *Diseases of the Brain and Spinal Cord*, alludes to the existence of hydatids on the brain, but gives no case from his own investigations; and he moreover appears to include the vesicular appearance of the choroid plexus among hydatid growths, or at least he considers that this appearance has been mistaken for hydatids by those who have described such formations. Mr. Solly, the most recent writer upon the brain, alludes also to the existence of hydatids in that organ, but gives no case from his own practice. Cruveilhier states that he has met with hydatids beneath the arachnoid membrane, but gives only one illustration, which appears, however, more like a large cyst, than a true example of a cysticercus.

Case vi. Congestive Disease, affecting the Fifth Pair of Nerves on the right side. Elizabeth B., ætat. 54, a healthy-looking woman, has generally enjoyed good health, with the exception of suffering occasionally from indigestion, and once from an attack of pneumonia, two years ago. About six weeks from the date of the present report (early in October 1841), she first experienced slight dimness of sight in the right eye, which, however, on examination, did not present any peculiar appearance. At that time she also complained of a pricking, shooting pain in the same eye, together with pains in her forehead, face, and right ear. Since that time the pain has become gradually worse, and her health has been much impaired.

On a careful examination, on the 13th October, the following were the features of her case. She complains of a shooting, throbbing, burning pain in the right eye, and a sensation, as she expresses it, as if the eye-ball were too large for its socket. The same kind of pain extends to the forehead as far as the vertex, backwards to the ear and occiput, and down the neck; to the right side of the nose, as far as the external aperture of the right nostril, and to the upper maxillary bone; the pain originating at the situation of the infra-orbital foramen. The upper eyelid is completely drawn over the ball of the right eye, so as entirely to obstruct vision. She has no power to lift it up; and the attempt to draw up the lid causes excruciating pain and violent action of the orbicularis palpebrarum. When the lid is elevated, although this is done with great difficulty, she is able to see very distinctly; there is no peculiar appearance presented by the eye itself, except that the pupillary aperture is oval instead of round.

She states that, since her illness, her hearing on the right side has been impaired: the power of smelling and of taste are, however, quite perfect. The pain in the parts above described is not constant, but subject to remissions and violent exacerbations, and is much increased by pressure on the regions affected. She complains of derangement of her general health; she has a sour taste in her mouth; no thirst, nor any desire for food; she has vomited several times this morning; bowels moderately open; urine scanty and high-coloured; tongue covered with a thick white fur; pulse 84, regular.

From a review of these circumstances, I came to the conclusion, that this woman was suffering from a neuralgic affection of the fifth pair of nerves, the ophthalmic division of that pair being chiefly concerned. The pain of the surface of the eye was evidently neuralgic, the spasmodic

closure of the lid was produced by reflex action; the oval shape of the pupil was due to sympathetic irritation of the lenticular ganglion. At that time, I considered the case to be a combination of neuralgia and dyspepsia, and perhaps hysteria; but its progress convinced me that the disease was more deeply seated, and affected the origin, not the extremities, of the nerves. Acting under the impression that the disease was neuralgic or dyspeptic, I directed a blister to be applied to the right temple, and she was ordered to take, every four hours, a draught composed of ten grains of carbonate of magnesia and one drachm of sulphate of magnesia, in peppermint water.

Oct. 15. Feels rather better; and, on the whole, the pain is somewhat diminished. She can lift the upper eyelid to the extent of about a quarter of an inch, but with pain and great effort. The eyelid is very tender to the touch. The general health is much improved; tongue much cleaner, but still slightly furred; vomiting has ceased; bowels open; no sour taste in the mouth; pulse 84, regular.

Oct. 16. Feels much worse; has had no sleep the whole of last night, in consequence of excessive pain in the parts above described. As I now believed that the symptoms were owing to inflammatory action or congestion at the origin, or in the course of the ophthalmic division of the fifth pair of nerves, I ordered the following: five grains of pilula hydrargyri to be taken twice a day, and a draught to be taken every four hours, consisting of two-thirds of a grain of tartar emetic, half a drachm of sulphate of magnesia, and an ounce of infusion of senna.

7 P. M., *same day.* She has taken two doses of the medicine; the first produced no marked effect; the second excited copious vomiting, followed by a violent convulsive fit, attended with foaming at the mouth. On my visiting her soon after this attack, she was lying in a state of torpor, and could not answer the questions put to her. I could now lift up the right eyelid without apparently exciting any pain, but the eyeball was drawn in different directions by the convulsive action of the recti and obliqui muscles. The pupil contracted and dilated, but its margin was irregular, assuming a somewhat triangular appearance; pulse 100, strong and incompressible. She was now bled to sixteen ounces. While the blood was being drawn, she was seized with violent attacks of rigidity of all the muscles, which ceased after lasting a few minutes. She appeared now to be only partially sensible, groaned occasionally, and drew her breath heavily and laboriously.

11 P. M. Breathing now hardly perceptible, except at intervals, when she takes two or three deep inspirations. There is constant rigidity of both lower extremities; the upper extremities are also rigidly fixed, although they are now and then relaxed for a short time. The lower jaw is firmly closed, and any attempt to draw it down is opposed by the violent contraction of its muscles. The muscles of the face are not rigid, and both the lips and eyelids can be freely drawn in any direction. The pupil of the right eye varies very much in figure, but is never round. There is not much spasm of the muscles of the back or abdomen, although both appear slightly rigid when pressed upon; pulse 80, soft and compressible.

Oct. 17. The rigidity of the muscles has continued with intermissions throughout the night, during a part of which she was delirious. Blood

not buffed nor cupped; pulse 80, soft. Since seven o'clock this morning, she has been sensible, and answers questions quite rationally. She has now perfect power over all the voluntary muscles, except that she is unable to raise the right eyelid. The pain caused by the attempt to draw it up with the finger is more intense than formerly; tongue dry, and covered with fur; no thirst; skin dry; bowels not relieved since six o'clock last night, when she had a copious fœtid evacuation; has passed no urine for twenty-four hours; breathing natural. The following course was now adopted: a solution of the extract of belladonna (gr. v to ʒi of water) was dropped into the eye, poured upon the blistered surface on the right temple, and applied to the whole of the right eyelid, and adjacent parts, by means of a linen rag. The following was also ordered: calomel gr. ij, blue pill gr. iij; a pill to be taken every four hours. In three minutes after the application of the solution of belladonna, as above described, the pain in the eyeball ceased, and she expressed it as being benumbed.

Oct. 18. Feels rather better. The fits of spasmodic rigidity occurred last night nearly every ten minutes, but they ceased at 1 A.M.; and after that time she had some tranquil sleep. She is now quite sensible, and has passed about a pint of urine, which has deposited a copious white sediment. The pain in the eyeball is less; she says it is benumbed, but exposure to light gives considerable pain; there is pain in the left lumbar region; bowels confined; pulse 76, rather hard. To have half an ounce of castor oil immediately, and to continue the pills of calomel and blue pill.

8 P.M. Feels much better, and the pains are much relieved. The right eyelid can be lifted up without much suffering, but she cannot raise it by her own exertions. The bowels have been opened, and the stools are copious; she has passed urine once, which is dark-coloured and of an offensive ammoniacal odour; pulse 80, soft and compressible; tongue and skin dry; she is now quite sensible. She has had three spasmodic fits since the morning, but they lasted a very short time.

Oct. 19. Improving; has had no spasm since the last visit; has slept from two till six o'clock this morning; the pain in the right eyeball and eyelid is diminished, and these parts are less tender on pressure; the attempt to raise the lid by the finger is also less opposed by the action of the muscle, but she is still unable to raise it herself; pulse 80, soft and full; gums rather tender. The solution of belladonna was again applied to the blistered surface of the right temple. To continue the pills.

Oct. 20. Considerably improved; she has had no spasms during the night; the pain is relieved, and she does not now suffer any inconvenience in any part of the body; the eyelid is still drawn down, and the tenderness of the eyeball remains, but not so remarkably as before. As her gums were sore, she was now directed to discontinue the pills, and to take some aperient and diuretic medicine. Under this treatment she rapidly improved: the secretions became natural, the tenderness of the eyeball wholly disappeared, and she regained the perfect power of raising the lid. She was discharged cured on the 26th of November; and although I had frequent opportunities of seeing her afterwards, she never had any return of the complaint.

Observations. I think that there can be little doubt, that this was a case of local congestion of the brain, involving the origin of the fifth pair of nerves on the right side. It will be seen that all the parts supplied by the ophthalmic branch of this nerve were acutely painful, and that the pain was also traced to the parts supplied by the superior maxillary nerve; the motor part of the inferior maxillary nerve was also affected, as was proved at one period of the disease, by the spasmodic closure of the jaw. The pain and spasms in other parts of the body are explicable, by recollecting the numerous communications of the ramifications of the fifth pair with other nerves. That it was not a case of mere neuralgia is, I think, proved by the foregoing detail of the general symptoms, by the *incessant* pain and tenderness of the parts supplied by the ophthalmic nerve, and by the decided benefit afforded by blood-letting, purgatives, and mercury; for it will be observed, that the abstraction of blood was attended by marked relief, and that as soon as the mouth became affected, the symptoms began to disappear. It is almost needless to remark, that the case could not have been one of hysteria, which, in some respects it nearly resembled; for the patient never had any similar attack either before or since, and she was of rather advanced age; and the reasons just adduced to prove that the case was not one of neuralgia, will *a fortiori* prove that it was not hysteria; for hysterical affections are not relieved by bleeding, purging, and mercury; nor do they allow of so complete a cure as that which was effected in the present case. The state of the pulse, the absence of heat of the head, and other obvious circumstances, preclude the supposition that the case was one of inflammation of the brain; and on the whole, I am inclined to adhere to the idea that it was one of local congestion; a view which, I think, will explain satisfactorily both the symptoms of the case and its successful treatment.

General Observations on Cerebral Diseases. I do not pretend to draw any general deduction from the foregoing cases, which are altogether of an anomalous character. They are quoted chiefly for the purpose of illustrating the extreme difficulty of investigating satisfactorily the phenomena of Cerebral Disease. But, while I reserve to myself, upon some future occasion, the further inquiry into the pathology, the diagnosis, the varieties, the classification, and the treatment of the Diseases of the Nervous System, I think I may add the following practical observations, which, though somewhat indefinite, are perhaps as precise as the nature of the affections, now under consideration, will allow.

1. *Symptoms.* It must be always borne in mind that cerebral symptoms, although exceedingly alike in their manifestations, proceed from causes wholly different from one another. *Convulsions* may arise from dentition, from inflammation of the cerebral membranes, from the pressure of exostoses, or of a spiculum of bone, from the presence of undigested or indigestible matter in the alimentary canal, from worms, from uterine irritation, or from toxæmia. The *abolition of sense or motion*, or that condition called *coma*, may be caused by narcotic poisons, by the inhalation of deleterious gases, by drunkenness, by congestion of the cerebral vessels, by effusion of blood or of serum within the cranium, by

softening of the brain, or by the presence of tumours or hydatids, and also by toxæmia. *The perversion of the intellectual powers* may be due to causes purely mental, as sudden and violent emotions of joy or sorrow; or to the immediate effects of alcoholic drinks, cocculus indicus, and other drugs, as in delirium ferox; or to the abuse of intoxicating liquors, as in delirium tremens (a disease which depends upon the exhaustion of the powers of the Nervous System by excessive and long-continued stimulation); or to inflammation of the brain or of its membranes.

2. *Classification.* It follows from the foregoing remarks, that the only true basis of the classification of the Diseases of the Nervous System is pathology; and that such terms as apoplexy, epilepsy, and hydrocephalus, (words embracing in each case a group of symptoms which may proceed from very different causes), should be discarded from our Nosology, and be employed only to conveniently express certain classes of associated phenomena.

3. *Pathology.* The pathology of the diseases of the Nervous System is to be diligently sought for by *post-mortem* examinations. In making this remark, it must be admitted that, in the present state of our knowledge, the seat of disease in the nervous centres cannot always be precisely determined by the scalpel of the anatomist. But in all fatal cases, the inquiry should be made; and I have no hesitation in stating, that no person can give a positive opinion upon a fatal case of Nervous Disease, unless such an examination have taken place. I should also add, that he who undertakes the task of investigating the morbid anatomy of the nervous centres, ought to prepare himself, by becoming thoroughly acquainted with the appearances and peculiarities of the healthy structures, and should likewise examine the phenomena presented by the brains and spinal chords of persons who have died without any *known* or *recognized* symptoms of Nervous Disease. *No post-mortem examination can be considered complete, unless the state of the brain at least has been carefully investigated, even although the patient has died of some disease apparently unconnected with the nervous system.* Chemistry and the microscope are probably destined to throw much new light on the morbid anatomy of the Nervous System.

4. *Diagnosis.* It is of the utmost importance that the diagnosis of cerebral diseases, although exceedingly difficult, should be as accurate as the circumstances will allow; for upon correct views in this particular, will often depend the life of the patient and the credit of the practitioner.

5. *Treatment.* It cannot be too strongly insisted upon, that the treatment must depend, *not upon the name given to the disease, but upon its pathology as indicated by its diagnosis.* One case shall be benefited by emetics and cold affusion; a second shall yield to opium and brandy; a third shall require physical restraint; a fourth shall be subdued by copious bleeding; a fifth shall require in addition the use of calomel and purgatives; a sixth shall with propriety be left to take its course. All these modes of treatment, judiciously pursued, are advisable in particular cases; but when erroneously applied, may lead to irreparable mischief. Upon the details of treatment, it is not my intention at present to enlarge; but I cannot conclude without emphatically condemning the indiscriminate employment of the lancet in all cases of

cerebral disease, attended with insensibility, or with perversion of the intellectual powers; while, on the other hand, I cannot too highly extol the copious abstraction of blood in appropriate cases. The state of the pulse I believe to be an unfailing criterion as to the necessity of blood-letting, which, when performed judiciously, *and in time*, has often in my own experience, and no doubt in that of many others, succeeded in averting the most formidable and fatal attacks of Cerebral Disease.

8, Torrington Square, March 1850.

ON THE PROGNOSIS AND TREATMENT OF ORGANIC DISEASES OF THE HEART.

By CHARLES J. B. WILLIAMS, M.D., F.R.S.

[*Concluded from last Number, p.* 320.]

We find, then, that Structural Diseases of the Heart are by no means universally dangerous or fatal in their tendency; but that they are so in proportion as the circulation becomes seriously impaired, either through the extent of the cardiac lesion, or through the additional disordering influence of an ill-proportioned quantity, or a depraved quality, of the blood. It is therefore obvious, that it should be the object of the Treatment, in maladies of this nature, to counteract or correct, so far as is possible, those influences which may give to each case a formidable character, and to place the patient under circumstances that shall favour and aid the damaged organ in carrying on the work of the circulation. Nor are these objects so unattainable in the plurality of cases, as might be expected from the vital value of the organ implicated. I know of few instances of structural disease of an important viscus that admit of more mitigation, under judicious treatment, than many Organic Affections of the Heart; and the examples, to which I have already alluded, of these affections enduring for a very long period, gradually increasing to a prodigious extent without destroying life, and sometimes without greatly sacrificing the comfort of the patient, give further proofs that the powers of adaptation and endurance, in this most vital of all organs, are far greater than is commonly imagined.

It may readily be inferred from my former remarks on Organic Diseases of the Heart, that the benefit which the subjects of them derive from medical treatment, depends on neither the activity or energy of the practice employed, nor on any uniformity of plan. In this, as in most intelligible cases of disease, the best practice is that rationally adapted to varying elements of disorder, with a view to restore that balance of functions which is most favourable to the easy action of the defective organ.

I have already noticed the prevailing tendency among many practitioners to treat Organic Diseases of the Heart by sedatives, and other lowering or reducing measures; but, according to my experience, such treatment is applicable only to periods of excitement or exacerbation, and the plan most generally useful, is one calculated to sustain the

powers of the circulation. There is much that is fictitious and partial in the inordinate action and palpitation of a diseased heart. The violent knock against the ribs, and the strong throbbing in the large arteries, are evidences of a force that is misdirected and ineffectual rather than excessive; for, at the same time, the pulse of distant arteries is scarcely to be felt, the extremities are cold, and the capillary circulation generally feeble. Hence, although sedatives may be beneficial as temporary expedients, measures of a sustaining and strengthening nature are more permanently useful. Organic lesions of the heart, in most instances, impair its propulsive power; and it is quite reasonable to expect most good from the means which shall have a contrary influence, by augmenting the steady strength of the organ, by improving the quality of the blood, and by promoting its equal distribution by the removal of obstructions and congestions. It is equally apparent, on the other hand, that these objects are not to be fulfilled by mere stimulants and tonics. The fact is quite familiar to practitioners, that in many instances of Heart Disease, the common spirituous and ethereal stimulants, and the stronger tonics, such as iron and quinine, aggravate the symptoms, and induce attacks of palpitation, oppression, and lividity. Yet this, as well as the opposite class of remedies, is not only borne, but proves most salutary at a proper season and under fitting circumstances. In order to know these seasons and circumstances, it is necessary to revert to the sketch of the pathology of Diseases of the Heart, already given in relation to Prognosis, and to consider it again in its application to practice.

We may conveniently consider the subject under the following heads of Indications of Treatment.

1. To regulate and promote the moderate and efficient Action of the Heart itself.

2. To improve the Quality, and regulate the Quantity and Distribution of Blood throughout the body.

3. To prevent or counteract the Lesions of Function and Structure which supervene in other organs, in the progress of Heart-Disease.

1. The treatment addressed to the Condition of the Heart itself will vary considerably, not only in different cases, but in the same case at different times. At early periods of organic disease, whether of the valves, investments, or muscular structures, there is commonly a tendency to excitement, manifested by increased action, palpitation, and sometimes pain or some kind of uneasiness in the cardiac region. In inflammatory and plethoric subjects, this excitement may either amount to inflammation, or assume some of those forms of excessive and vitiated local nutrition, which tend to further disorganization of the organ. Under such circumstances, there can be no doubt of the propriety of antiphlogistic measures, proportioned to the severity of the symptoms. In the absence of marked plethora or decided pyrexia, local depletion or counter-irritation will generally suffice, especially if aided by the means afterwards to be noticed for reducing the stimulating property of the blood.

The instances in which general blood-letting is called for in Organic Diseases of the Heart, are, according to my experience, rare. I do not deny that it will often, for the time, relieve strong action of the heart and vascular excitement more promptly than any other means; but it

generally leaves afterwards a weakness and irritability of the organ, which unfits it for the regular work of the circulation, and which, therefore, so tends to the recurrence of congestion, oppression, and excitement, as to call for a repetition of the blood-letting. Thus the blood becomes impoverished, and the constitutional powers lowered; and not only is there added the complication of anæmia, which I before noticed as a common result of such treatment, but the power of the excreting organs fails also, and cachæmia, dropsy, and degenerations, may ensue. As in other cases of defective organization, it is a great object to sustain the constitutional powers; and we must not lose sight of this in our endeavours to reduce local inflammation and temporary excitement.

Cupping, leeching, and blistering in the region of the heart, aided by mild mercurials, antimonials, sedatives, and salines, with moderate diet and rest, will be found safer measures than venesection, and are generally adequate to reduce the excitement of the heart, even in inflammatory and plethoric subjects. Dry cupping extensively used,[1] and counter-congestion by hæmostatic ligatures on one or more limbs, (as for venesection), are also available means for relieving the heart from the weight and stimulus of the blood, during periods of temporary sthenic excitement.

But in many examples, particularly in persons of nervous temperament, in females, and in connexion with dyspeptic and other sympathetic disorders, the excitement of the heart is much more nervous than vascular. The suddenness and variability of the paroxysms of palpitation or painful action; their disproportion to other symptoms; the prevalence of other signs of nervous excitement or disturbance, such as spinal or superficial cutaneous tenderness, various spasms, globus hystericus, copious diuresis, etc, will generally guide to the distinction of this kind of inordinate action: and if the subject be not positively anæmic, there will generally be sufficient evidence of the absence of any real strength in the vascular system, in the general pallidity and low temperature of the surface and extremities, and the weakness of the pulses in the limbs, as compared with those of the palpitating heart. Under such circumstances, nervous sedatives are more appropriate than depletion; and local irritation or partial fulness of blood is sufficiently counteracted by derivants, evacuants, and means which increase the natural excretions. Of the class of nervous sedatives, those which have an obvious influence on the Heart are to be preferred, especially the following, which I place in the order in which I find them most effectual: hydrocyanic acid, aconite, digitalis, camphor, and henbane. The sedative action of all these is promoted by combining them with an alkaline carbonate, which fulfils another indication to be noticed hereafter. In the hysterical or otherwise more nervous kinds of palpitation, the medicines generally called antispasmodic, such as the fœtid gums, valerian, bella-

[1] To *save* the blood by *dry* cupping, the exhaustion of the glass should not be carried so far as to induce much ecchymosis. If blood be extravasated, it is lost as blood; and if reabsorbed, can be useful only through a new process of solution and assimilation. Even in the process of *counter-congestion*, the blood may be injured by long stagnation; as I have shown it to be *spoiled* and unfit for further use, after it has been long pent up in congested organs in intermittent and adynamic fevers. *Principles of Medicine*, second edition, pp. 118, 196.

donna, stramonium, and æther, mostly in conjunction with the volatile alkali, will be found to afford more relief. It is curious to observe how, under the influence of some of these which may be considered stimulant, the heart's action sometimes becomes calmed; but it would be commonly found in such cases, that although the organ throbs violently, it does not effectually expel its contents, and the pulse of distant arteries is extremely weak: the diffusible stimulant, by exciting a more energetic contraction, propels the oppressive load of blood, and restores the equality and quietude of the circulation. The combination of the two kinds of medicaments, the nervous sedatives with the muscular stimulants, is neither irrational in theory, nor inefficacious in practice; for I have frequently obtained from the united operation of hydrocyanic acid and valerian, aconite and galbanum, or digitalis and æther, marked advantage, which the agents separately failed to afford. Another expedient which, in a few instances, has proved very effectual in subduing the violent action of a palpitating heart, is a copious draught of cold water. This may operate sympathetically, by soothing the heated and irritable surface of the stomach; but I am inclined to consider its operation in some measure direct on the heart itself, which is quite near enough to the stomach and æsophagus to receive the impression of cold from a large bulk of water. Small pieces of ice swallowed in succession have a similar effect.[1] This measure would not be expedient in persons liable to syncope; for this opposite condition may result from the sudden reduction of the palpitation by cold.

The measures hitherto recommended are chiefly of a temporary nature, to subdue or moderate excessive action of the heart, when it is first developed, or aggravated during seasons of excitement. There are others of more permanent operation, inadequate and even unsuited for these occasions, but applicable in the intervals between the attacks, to which they in some measure may prove preventives. I allude to the agents generally called tonic, which are, much more generally than is commonly supposed, applicable to the treatment of the Organic Diseases of the Heart. Much caution and discretion are necessary in their selection and administration. Thus, in the more inflammatory cases, nothing stronger than the mineral acids or weak vegetable astringents may be borne. A class somewhat less sthenic may tolerate and receive benefit from salts of zinc or silver, tannic or gallic acids, and weak chalybeates combined with salines. A third group, bordering more on the anæmic and irritable condition, with much action but no strength, bear the more decided tonics of iron and quinine; especially when guarded by some of the sedatives before noticed, such as hydrocyanic acid, aconite, etc. But for the useful and even safe administration of all tonic remedies in connexion with an injured and irritable heart, it is essential that the secretions be free; and, in order to ensure this, it is often necessary to resort to the means to be presently noticed, as tending to maintain the purity of the blood. It is quite intelligible that tonics, which, in a relaxed system with free secretions, fortify the muscular and vascular

[1] In my experiments on animals, the power of slight applications of cold water, to moderate the turbulence and increase the steady force of the exposed heart, was, in some instances, very remarkable; but when freely used, it caused a quivering contraction, which soon suspended all movement.

fibres by bracing them and promoting their contractile power, may further obstruct those secreting organs whose function is imperfect, and thus add to the disorder which their failure occasions.

We have next to notice the opposite dynamic condition of the Diseased Heart, that of defective action. In many instances, this is combined with irregularity of rhythm, or inequality of pulse; but the irregularity and the failure are by no means proportioned to each other; for weak hearts sometimes show no intermission in their action; and considerable irregularity may occur without any prominent signs of weakness. Still, as a general rule, it may be laid down, that irregularity of rhythm, and inequality of strength in the pulse, belong to the class rather of defective than of excessive power of the heart, especially as regards its efficiency in carrying on the circulation. More or less irregularity or inequality of pulse is commonly observed in connexion with the following organic lesions, which distinctly impair the propulsive power:—Extensive valvular disease, especially of the mitral orifice:[1] dilatation with or without moderate hypertrophy; fatty degeneration and softening, connected with partial obstruction of the coronary arteries. Advanced stages of severe pericarditis, and adhesions of the pericardium, present a remarkable kind of inequality, and even intermission, in the radial pulse, whilst the heart's pulsations are quite regular; in fact, some of the latter are too weak to reach the wrist, hence the irregularity; and I have distinctly ascertained that the weak, or deficient beats, are those corresponding with inspiration, whilst the stronger pulses are those enforced by the expiratory act, which thus helps the weak heart, and augments its propulsive power. So it often happens, that the act of coughing gives a momentary strength to a weak pulse.

It must not be inferred from the preceding remarks, that irregular action is necessarily connected with organic disease. Nothing is more common, than to find the heart acting irregularly when exhausted from fatigue or other undue excitement; or when disturbed by deranged digestion, bilious disorder, or a gouty, or otherwise depraved state of the blood. These conditions are only temporary, and amenable to treatment; but if the irregularity should continue for several weeks, in spite of treatment, there is reason to suspect the existence of structural disease; and, in the absence of signs of valvular lesions and dilatation, fatty degeneration or softening may be apprehended.[2]

It may well be anticipated, that the chief remedies to be recommended for defective and irregular action of the heart, are of the stimulating and sustaining kind; but although this so far holds good that it may be taken as the rule, it cannot be applied without considerable qualification

[1] Obstructive lesions more particularly. In my experiments on animals, I found that nothing disturbed the regularity of the heart's action so much as obstruction of the left auriculo-ventricular orifice, by pushing the walls of the auricle into it with the finger.

[2] A very complete and interesting memoir on Fatty Diseases of the Heart has recently been read to the Royal Medical and Chirurgical Society, by my friend Dr. R. Quain; and, when published, will be found to contain the most valuable information on the history and pathology of these affections. Dr. Quain has completely verified my inference, that fatty degeneration is a chemical change, like the spontaneous change of muscle into adipocere. [An abstract of this paper will be given in our Reports of Societies, which, from the unexpected length of the Original Articles in the present number, we are reluctantly obliged to defer till June. EDITORS.]

and tact. The same organic lesion in the heart which forms an objection to the unguarded use of depletion and reducing means during inordinate action, is an obstacle to the free administration of stimulants and tonics during depressed or irregular action. It must not be forgotten that we have to deal with a damaged mechanism, which, in a state of weakness, may as ill bear the goad of a stimulant, or the bracing of a tonic, as, in a state of excitement, it can sustain the loss of much blood, or of that which contributes to its regular support. In syncope, or extreme weakness, with a healthy heart, we need not fear to excite its failing powers by strong stimulants, and to maintain them by the most bracing tonics; but in a diseased organ, similar forced excitement may strain, irritate, or rupture the faulty structure, before it can restore the balance of the wanting power.

It often happens, therefore, that we have to premise or combine with the use of stimulants and tonics, means to relieve the heart of some of the oppressive load which it cannot propel. A few leeches, a moderate cupping, or a blister over the heart, or, in slighter cases, derivants to the extremities and secreting organs, may accomplish this end, and enable the stimulant to operate on the contractile power of the organ with greater certainty and safety. So, too, the various aids to an embarrassed circulation, afforded by warmth to the surface and extremities, gentle friction, and appropriate changes of posture or exercise, will generally be needed during the continued action of tonics. With due attention to these points, most cases of Organic Disease of the Heart with defective action may be bettered for a time with tonics; and if under this treatment the local lesion, being of the nature of chronic inflammation, should show any tendency to increase, counter-irritation, with the moderate internal use of mercury or iodide of potassium, may be employed to counteract it. The tonics most suitable to augment the strength of the heart have already been noticed; for the condition of habitually defective action, the strongest kinds, if borne, are to be preferred, such as iron, quinine, tannic and gallic acids. Advantage sometimes results from combining two of these that do not form an insoluble compound, as sulphates or citrates of quinine and iron or zinc, and tannate of quinine. But the selection must also much depend on the condition of the blood as well as on that of the heart, and to this subject we now proceed.

2. The regulation of the Quantity and Condition of the Blood is an object of great importance in diseases of the organ which, more than any other, is liable to be influenced by the blood. But it will not be needful to dwell long on the means by which this indication is to be fulfilled, because they are the same as are usual in diseases of the blood. Thus, in states of plethora, the excessive quantity and richness are reduced by depletion, evacuants, and low diet; but, for reasons before stated, it is needful to take care that these be not carried too far. In asthenic plethora, the purification of the blood, by increasing the secretions and promoting its more active and steady circulation, is of more avail than depletion; this subject will again claim our attention. A cause of temporary plethora, which often seriously operates in aggravating Heart Disease, is too liberal an indulgence in liquids of any kind, especially during meals. Experience often teaches patients the advantage of moderation in this respect; and as copious libations at meals

are more the result of habit than of real want, and are frequently substituted for slow and careful mastication, there is good reason to discourage them. If thirst should prevail, or if a freer supply of liquid is wanted to help the processes of elimination, water, or some very simple beverage, may be taken on an empty stomach, when it is more speedily distributed through the alimentary canal, and, being absorbed, promptly passes off by the kidneys and skin.

I have already adverted to the common combination of structural Disease of the Heart with anæmia or chlorosis. As before hinted, the scantiness and poverty of the blood is frequently the result of the injudicious employment of depletion, low diet, confinement, and other lowering measures, by which it has been erroneously supposed that Diseases of the Heart are to be controlled. In other instances, however, especially after rheumatism, by whatsoever means treated, the anæmic condition arises spontaneously; and apparently proceeds from want of power in the system to renew the blood that becomes depraved and *effete* by the morbid changes which have taken place in it. After other acute diseases, such as inflammations and fevers, which injure the quality of the blood, the same deficiency of red particles often occurs; and if there be a lesion of the heart present, its impairing influence on the circulation is more seriously felt. The treatment usually proper for anæmia is required for these cases; and I have before mentioned, that the heart symptoms are ultimately relieved, as the heart and vessels become invigorated by more and better blood: but here too, the presence of the Heart Disease renders it necessary to proceed cautiously and slowly in the administration of iron and other tonics. The first doses often aggravate the pain and palpitation of the heart; and it is therefore expedient that they should be small, and combined with hydrocyanic acid or some other sedative, and increased gradually, so soon as they are tolerated. As, in most cases of chlorosis, the secreting organs commonly require the aid of gentle aperients and diuretics, so these are particularly needful here, where any retention of excrementitious matter would tend to irritate the damaged organ, and render it intolerant of the bracing influence of iron. Under similar circumstances, the iodide of iron has appeared to answer better than other preparations, probably from its influence on the capillary circulation and secretion; or a combination of iodide of potassium with the citrate or acetate of iron, which is less liable to decomposition than the iodide of iron itself. In the anæmic state of the system with structural Disease of the Heart succeeding to rheumatism, this combination is especially salutary.

It is not necessary to dwell on further details of the treatment calculated to improve the quantity and quality of the blood in connexion with Heart Disease; but it would not be right to omit the mention of the salutary influence of pure country air, and the full effulgence of a sunny sky, on the sanguiferous system. I have known several instances, in which, with considerable organic disease, invalids have attained a degree of strength and constitutional vigour, by passing the greater part of the day *sub dio*, which they never could gain from any system of medication. A long sea voyage has a like salutary influence, but it would not be safe for those liable to severe sea-sickness.

Further in relation to the blood, we have to notice the means by

which its quality is to be improved by the removal of excrementitious and other noxious matters. Of the importance of these we have already had so many proofs in almost every bearing of the subject, that we have been obliged to anticipate much of what belongs to this head. In every degree and kind of Organic Disease of the Heart, we find that a deficient quantity or vitiated quality of the excretions is the common precursor or concomitant of aggravated symptoms; and from the marked manner in which remedies which augment and improve the secretions bring relief, we are constrained to infer, that the failure of this purifying process, and the consequent accumulation of noxious matters in the blood, is the common cause of the exacerbations of Heart Disease. And in truth, it will be found that most of the various disturbing influences that may be regarded as the *lædentia* in Heart Disease, agree in this respect, that directly or indirectly, they impair the processes of elimination, and that their permanent operation is chiefly connected with this effect. Thus over-exertion of the body, or agitation of the mind, bring on palpitations, pain, and other severe symptoms; but rest and tranquillity will generally remove these, provided the secretions continue free. But if the secretions have become impaired, which they commonly are where the fatigue or excitement have been considerable, then no relief ensues till these functions are restored. A fit of indigestion, exposure to cold, or confinement in an impure atmosphere, may bring on a severe aggravation of the symptoms of Heart Disease. This will be transient or enduring, generally in proportion as the processes of secretion by the kidneys, bowels, and skin, are slightly or seriously deranged. In a similar manner, the onset of febrile diseases, influenza, gout, rheumatism, erysipelas, and the like, attended as they always are by impaired secretions, never fails to bring on an exacerbation of the symptoms of Organic Disease of the Heart.

This very general fact with regard to the aggravations of Heart Disease renders intelligible what is quite familiar to experienced practitioners, although they may explain it in different ways, that the best remedies under these circumstances are those which increase the secretions of the liver and intestines, the kidneys, and the skin. A few doses of mercurial aperients, with salines and other diuretics and diaphoretics, do more to relieve the symptoms than any treatment exclusively addressed to the heart; and if they do not succeed in mitigating the more distressing parts of the malady, they at least prepare the system for sedatives, antispasmodics, and tonics, which then act with safety and effect.

In cases, therefore, of exacerbation of the symptoms of Organic Disease of the Heart, sometimes in addition to, sometimes without the measures before recommended to affect the organ primarily, we commonly administer a mercurial purgative every night or every other night, until the secretions from the intestines give evidence of a free elimination of bile. We may combine with the mercurial a little squill and digitalis, with the view to excite a fuller flow of urine; and to promote the same object, we exhibit various saline solutions with an excess of alkali or of its carbonate,[1] during the day. These are the medicines which I find most

[1] The salts of soda, potash, and ammonia, with vegetable acids, or with nitric or phosphoric acid, answer the best.

constantly useful in relieving the exacerbations of Heart Disease, through their action on the secretions; but there are many others capable of giving supplementary or succedaneous aid, or that are specially suited to particular cases. Of these I would mention colchicum, iodide of potassium, hydrochlorate of ammonia, benzoate of ammonia or potash, taraxacum, tincture of cantharides, compound spirit of horseradish, and infusions of uva ursi, pareira, and digitalis, as those which have the least frequently disappointed me in their effects. So soon as some or other of these medicines, alone or in combination, have succeeded in restoring the secretion which was defective or depraved, something of a strengthening kind, such as a bitter tonic, or chalybeate, may be advantageously added, as it will counteract the weakening operation of the eliminatory medicines, and improve the powers of digestion and assimilation.

Besides improving the quality of the blood, we have, comprised under the present head, the indication to promote, regulate, or equalize its distribution. The means which best contribute to the fulfilment of this indication, are chiefly the various expedients which promote the circulation of the surface and extremities, such as gentle exercise, friction, warm clothing, and artificial warmth. In proportion as these means augment the quantity and accelerate the flow of blood in the superficial and extreme vessels, the heart will be lightened of some of its load, and internal organs will be relieved of some of their congestion. It is obvious that these measures will be more salutary in cold, than in warm seasons: in fact, in very hot weather, they may become hurtful, by withdrawing from the heart too much of its proper stimulus, and thus inducing faintness and extreme weakness. Under these circumstances, cool astringent applications to the surface, as by sprinkling with water, sponging with vinegar, and the refreshing influence of a cool breeze, with the horizontal posture and rest, will restore the circulation and help the flagging heart.

3. The last indication is to prevent or counteract the Lesions of Function and Structure, which supervene in other organs in the progress of Heart Disease. The measures which we have just recommended as suitable to improve the condition of the blood, are those also which succeed best in correcting functional disease, and preventing structural changes; but a glance at the tabular sketch before given, of the secondary effects of Diseased Heart on other organs, suggests the importance of directing the treatment especially towards any of these that give signs of suffering. It may be observed, that the first morbid condition of the organs thus secondarily affected is, for the most part, congestion, or irregular flow of blood with disordered secretion: then follow exudations or deposits, altering the structures, and more permanently impairing the functions: lastly ensue the contraction, induration, or fatty or calcareous degeneration of these deposits, still further subverting the organisation and reducing the vitality of the structures. It is not necessary to discuss systematically the means by which we might hope to retard the development of these formidable evils: in some instances, these will sufficiently suggest themselves, on a rational consideration of the subject in its pathological and therapeutic bearings; in others, science and art fail to help us. But I will conclude this paper by the mention

of a few expedients which have sometimes succeeded in rescuing patients, for a time, from the fearful emergencies into which Organic Disease of the Heart, with secondary complications, tends to plunge them.

In case of structural Disease of the Heart, complicated with affection of the liver, in addition to the treatment for the former, it is necessary to use mercury more freely, with a view to its cholagogue effect. The combination of blue pill, squill, and digitalis, is commonly suitable, and may be given from once to three times a day, until the gums are slightly affected, or a slight bilious diarrhœa or copious diuresis ensues. In most instances, the addition of a little narcotic, such as extract of conium, henbane, or poppy, is useful, to prevent the irritation of the medicine on the bowels. Cupping, blisters, and other counter-irritants to the right hypochondriac region, often do good for a time; after their use, and that of mercury, nitro-muriatic acid lotions and foot-baths, and the internal exhibition of extract of dandelion, with muriate of ammonia and nitrate of potass, will sometimes in a decided manner promote the secretion and ameliorate the condition of the liver. Saline purgatives, which derive freely from the portal system, are also occasionally useful, especially if there be any tendency to hæmorrhoids or ascites.

The complication of kidney-disease, evinced by the presence of albumen in the urine, is, in its early stage, by no means so intractable as is commonly supposed. Cupping and large blisters to the loins, with a few doses of hydragogue purgatives, have often succeeded in restoring the urine to a healthy state, and removing all symptoms of this complication, even where it had proceeded to the length of causing dropsy. The hydragogue most suitable to these cases, is the bitartrate of potass, in doses of from half an ounce to an ounce taken fasting, with a little ginger syrup in water. Its operation, if tardy, may be quickened by the addition of a few grains of gamboge or jalap, or a drop of croton oil; but these offend the stomach and injure the appetite more than the cream of tartar alone. The same objection exists against elaterium, which has the further disadvantage of sometimes seriously depressing the heart's action; but when other means fail, we are constrained to resort to it; and although it gives him a terrible shake, it will sometimes rescue a patient from the rising waters of the dropsical flood. It has appeared to me to disorder least, when given in the dose of from a quarter to half a grain in a pill, with two or three grains of calomel and a drop of creasote. Mercury is generally considered unsuited to cases of albuminuria, on account of its tendency to cause excessive and depressing salivation, even in small doses: but this effect is, I believe, confined to the more advanced stages of kidney disease, in which the urine is of low specific gravity as well as albuminous. Where, together with albumen, there is a considerable amount of urinary matter, whether dissolved as urea, or precipitated as lithate of ammonia, and especially when the urine is also acid, I find mercury to induce no such excessive influence, but to be valuable in aiding the operation of other purgatives and diuretics. After blisters and hydragogue purgatives, sometimes aided by the warm bath (which, however, I have found very uncertain), have somewhat relieved the congestion of the kidneys, they become amenable to the influence of some diuretics, particularly digitalis, taraxacum, scoparium, diosma, with iodide of potassum, acetate

of potass, benzoate of ammonia, or some of the saline diuretics before mentioned. The tincture of cantharides is also suited for this period of the treatment; and although an uncertain diuretic, and one that should not be continued if it do not speedily operate, it sometimes restores the lost powers of secretion better than any other remedy. It may be given in doses of from ten to forty minims, combined with bicarbonate of potass, mucilage, and a little henbane or conium. The longer the renal complication lasts, the more it impairs the quality of the blood, and produces spanæmia and tendency to dropsy; and it becomes an object to counteract this by the exhibition of iron. Generally, this remedy is not well borne; soon causing a diminished flow of urine and increase of albumen: but in some instances, a few grains of citrate of iron, or a few drops of the muriated tincture, have been added to a diuretic draught with safety and advantage. In proportion as the renal disease becomes confirmed and permanent by the substitution of exudation matter for the proper secreting cells, and by the subsequent fatty degeneration of this matter, or by its off-casting and the atrophy of the organ, the case becomes less and less susceptible of relief. The blood, impoverished, yet loaded with excrementitious matter, irritates all the organs and vessels through which it passes; and not only are the cavities and cellular textures distended with dropsical effusions, but low inflammations occur there also, and harrass the patient with a variety of new sufferings, before his final deliverance. In many instances, I have ascertained the presence or urea and uric acid in the serum thus effused; and I have known the impregnation so strong, that the liquid, oozing from punctures in the legs, or from an unhealed tap-wound of the abdomen, has had a strong urinous smell, and has been found actually to contain more urea than the serous fluid which has passed by the kidneys. It is not marvellous if medicine can do little in such a subverted order of function and structure; but it has appeared wonderful to me how life has been retained, and the diseased heart has gone on working, in some instances, for days, and even for weeks, in apparent defiance of all that are commonly considered as the laws of the functions. Almost the only useful treatment in this extremity, is by stimulants: and in addition to the usual vinous and spirituous forms, which are often tried in their most attractive varieties, as they may best please the palate of the poor sufferer, I may mention the chlorate of potass, as a medicine which seems, sometimes, to have a kind of reviving effect even in such extreme states. In doses of from five to fifteen grains, with carbonate of ammonia and a little syrup and water, it may be given every hour or two: it sometimes seems to rekindle the dying embers of life so distinctly, as to make one again reflect on a parallel (which has been only revived by Liebig) between vital chemistry and the process of combustion.

Pulmonary complications with Diseased Heart, in their moderate degrees and early stages, are readily reduced by cupping and blisters, or extensive rubefacients on the dorsal surface of the chest, mercury, antimony, salines, and expectorants. Attacks of asthma, connected with Diseased Heart, commonly depend on pulmonary congestion, sometimes exciting bronchial spasm, and ending in bronchial flux, and are relieved by blisters, or other counter-irritants, antispasmodics, and expectorants or derivants. More intense degrees of congestion pass into

pulmonary apoplexy or hepatisation, which, if extensive, may seriously impede the passage of air and blood in the lung, and may proceed to degeneration and further disorganization. These are among the most formidable complications of Diseased Heart; and, unless treated before they have involved much of the lung, they are among the most rapidly fatal.

Disease of the larger arteries, when in connexion with organic lesions of the heart, requires due consideration in the treatment. At its early period, it is usually more or less inflammatory, and may require moderate antiphlogistic treatment, by small local bleedings, mercury, and iodide of potassium, with salines. But there is an early tendency to deposits, degeneration, and partial dilatation in the coats of the arteries; and to counteract these, tonic, astringent, and generally invigorating remedies, are more suited. Combinations of iodine, with nitric acid, preparations of zinc, tannic and gallic acids, and astringent chalybeates (such as the muriated tincture, and sulphate of iron with alum), have appeared to be serviceable in some of these cases, in controlling the undue pulsation and disturbance in parts. The cod liver oil, too, has proved beneficial in a few instances; probably, by softening the solid fatty matter of degenerating deposits, and thus rendering them more amenable to the processes of absorption and healthy reparation. Where more serious disease in the arteries, such as ossification, partial obliteration, aneurism, or great dilatation, has taken place, it becomes of great moment to keep the circulation as equal as possible, but without reducing its strength or impairing the quality of the blood; and in this way may be averted the further degeneration, wasting, and even death, of textures, which are apt to ensue in parts nourished by the injured vessels.

These observations have extended much further than I originally intended, yet the subject is far from being exhausted. The length of the paper, however, warns me to conclude the subject with a few words on the general regimen suitable to cases of Organic Disease of the Heart.

Throughout this paper I have endeavoured to keep in prominence the general fact, that Organic Diseases of the Heart tend to weaken, rather than to excite the bodily powers, and that therefore they are the proper objects for a sustaining and invigorating, rather than a lowering plan of treatment. The same position holds good as a general rule with regard to diet and regimen. Although exceptional deviations must be made in case of temporary plethora, inflammation, considerable congestion, and feverish states of the system, yet the diet should generally be as nutritious as the appetite and power of digestion can *comfortably* bear. On this subject I will quote the following conclusion of a lecture of mine, delivered fourteen years ago.

"The diet should generally be of as nourishing a quality as will suit the digestive organs, and will not produce plethora or inflammation. It is a great mistake, to suppose that Diseases of the Heart are to be cured by starving. Except when inflammation is actually present, or in case of hypertrophy with continued increased action, or where pulmonary hæmorrhage or apoplexy is threatened, the diet should be one of moderation, but not abstemiousness. In most cases, real strength in the organs of circulation, and in the muscles generally, is defective, whilst the irritability of the nervous system is undiminished. Now, if tone

and strength are to be given to the muscular system, and tranquillity to the nervous, by any mode of diet, it is by one of a nutritious character, with a due proportion of good animal food; and whilst it may be necessary to limit the proportion of the meat, and vary its mixture with less nutritious articles, especially farinaceous, according to the state of the digestive organs and the wants of the system, it is particularly important that in no case should the food, whether solid or liquid, be bulky in quantity. A distended stomach is apt, both mechanically and sympathetically, to excite or disorder the heart's action; and many are the individuals who suffer from palpitation under such an influence, while, at other times, they are scarcely sensible of it. The quantity of liquid food should also be limited, for a reason that I have already stated, to keep down the mass of the circulating fluid. It is very common for patients with diseased hearts to suffer severely from drinking too freely, although it be only of tea or water. The appetite for excessive quantities of drink, is more the result of habit than of real want: by exercising a little self-denial in the first instance, the feelings of thirst gradually abate; and comfort and health are alike retained by drinking sparingly.

"The expediency of avoiding active exertion is so obvious, that I need not dwell on it; but there are particular kinds of exertion, which, without appearing to be violent, greatly try the heart's powers. I would instance walking up stairs or up hill, or using even moderate exertion in a constrained posture. Against these the patient must be particularly cautioned. I have known great improvement ensue on a patient removing from a house and country in which he encountered stairs or hills at every turn, to those in which all was nearly on a level. This point is the more important, because moderate exercise is in most cases highly beneficial; and the more of this that can be taken in open, healthy air, without inducing fatigue, the better for the strength and regularity of all the functions. This must be done in some cases only on foot; but it is desirable to vary the mode of exercise, and to those accustomed to ride, no motion is more suitable or salutary than the gentle paces of an easy horse. Where riding is not borne, carriage exercise is the only other resource; and it may well be combined with walking, but when taken alone, it is inferior to either of the others. Travelling by easy stages about a pleasant country, is sometimes beneficial in many ways—by the amount of moderate exercise, the change of air, and the mental amusement which it affords. In the intervals of exercise, which constitute the greater part of the day, it is very essential that the body should really be at *rest;* and by easy horizontal or inclined postures, on sofas, couches, or other contrivances, that the labour of the heart be aided as much as possible in propelling the blood to all parts. When the capacity for exercise fails, it is proper to assist the defective circulation, particularly in the extremities, by daily friction. In all cases this may prove salutary, by promoting the function of the extreme vessels and the skin. With the same object, it is highly important to have a sufficiency of woollen clothing; and if the skin is habitually dry, its condition may be improved by warm salt water baths. In a relaxed state of the surface, sponging freely with tepid or cold salt water or vinegar, followed by friction, proves equally salutary.

"Moral and mental quietude is most desirable, but here again not inactivity. According to the natural dispositions, various degrees of mental occupation and social intercourse are necessary; and so strongly is the action, and thence the structure of the heart, influenced by metaphysical causes, that there is no morbific circumstance more pernicious than violent mental passions, and no medicine, in chronic cases, so salutary as the calm enjoyment of agreeable social relations, and of amusing intellectual pursuits. We speak *practically* not less than *poetically*, when we place these passions in the human heart; and as we hear of many a whole heart rent and broken with grief and trouble, or burst with unbridled passion, we may well judge what havoc these feelings may cause in a heart already unsound. It is not often ours to "minister to a mind diseased, or cleanse the stuffed bosom of that perilous stuff that weighs upon the heart;" but we may often enlist the patient's understanding and well-grounded fears on our own side, when we counsel him sobriety in his sorrow, and calmness in his care: on us may devolve the privilege and responsibility (and in no case does the conscientious physician, with his best exertions, more need Divine help to direct his judgment aright) of advising and deciding with regard to important changes in the relations and occupations of his future life."—*London Medical Gazette*, 1838.

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A CASE OF MUCO-ENTERITIS, FOLLOWED BY ACUTE PERITONITIS, TERMINATING IN EFFUSION INTO THE ABDOMINAL CAVITY,

RELIEVED BY PROFUSE SEROUS DISCHARGE FROM A SPONTANEOUS OPENING OF THE UMBILICUS BY ULCERATION, FOLLOWED BY PROLONGED SUPPURATION, REPEATED HÆMORRHAGE, AND STERCORACEOUS VOMITING.

By ALEXANDER KNOX, M.D., Physician to the Dispensary, Strangford, County Down, Ireland.

CASE. J. S., an agricultural labourer, about thirty years of age, had enjoyed good health, until about a fortnight before his application at the Strangford Dispensary. At the period alluded to, he had been confined to bed for two or three days, but the precise nature of his indisposition had not been ascertained. It had, however, caused much debility, from which he was not yet recovered. When I first saw him, Oct. 26, he complained of acute pains about the umbilicus, and costiveness; for which a draught of castor oil and laudanum was administered, and he was directed to have hot fomentations repeatedly applied to the abdomen. The bowels were moved with considerable difficulty, and the constipation was followed by obstinate fæcal diarrhœa; but the discharges were neither scybalous, mucous, nor bloody, nor was any tenesmus present. The patient, however, was flushed, the pulse was quick, and there was obscure abdominal tenderness, increased by pressure. Leeches and fomentations were

assiduously employed, and calomel and opium, and afterwards hydrargyrum c. creta, combined with the hydrochlorate of morphia, were prescribed in repeated doses, with the view of effecting mercurialization of the system. On the sixth day, acute tenderness, on the slightest pressure on the surface of the abdomen, and tympanites, clearly indicated the extension of the inflammation from the mucous and muscular intestinal tissues to the peritoneum. The treatment above indicated was pursued with renewed energy, with the addition of the production of full and extensive blistering over the site of the inflamed viscera, with Brown's cantharidine, which acted very efficiently; but all failed to arrest the acute peritonitis, which had supervened on his original disease. In four days from the appearance of the peritoneal symptoms, and on the tenth of the patient's illness, I became satisfied that effusion had commenced, and indeed proceeded to some extent, as the feverishness had in some degree abated, and the tympanitic distension was replaced by a more firm condition of the abdominal swelling.

The indication now was of course to promote absorption, and support the patient's strength. Mild but nutritious food, chiefly farinaceous, was liberally allowed, as the fæcal diarrhœa still continued unabated, causing many times in the day a profuse discharge, which opium, rhatany, kino, catechu, the diacetate of lead, and various other astringents, alone, or combined with gentle aperients, had failed to moderate. Mercury was continued in the form of the grey powder: but his constitution was scarcely affected, either by this, by calomel, or by the application of strong mercurial ointment, which had been applied both as a dressing to the blistered surfaces, and by inunction to the interior of the thighs. The presence of fluid, hitherto a matter of inference, now became certain, as distinct fluctuation could be felt within the abdomen; and the question was placed beyond doubt, by the profuse discharge of serous fluid from a spontaneous opening at the umbilicus. This event, however rare, a prominence at that point had led me to anticipate, and, in consequence, to prepare the mind of the patient, now weakened and anxious from his severe illness, to expect what might happen. The anticipated rupture occurred on the night of the twenty-first day of the patient's illness. The fluid, poured out in considerable quantities, nearly resembled, for the first day or two, pure water; it then assumed the appearance, both in consistence and colour, of unboiled oat-meal flummery, and finally became simply purulent. The pulse meanwhile fell from 120, successively to 90, 80, and 74 beats in the minute. Emollient poultices were applied to the umbilicus; wine and broth were allowed, and a mixture containing the tinctures of opium, cinchona, and catechu, combined with spirit of nitrous ether, given in full doses. The purulent discharge from the umbilicus from time to time assumed a brownish colour, evidently from the admixture of some blood. All the medicines hitherto used had failed in arresting the profuse diarrhœa, which was latterly mixed with mucus, and occasionally of a watery nature; and as this discharge, together with the abundant formation of pus, began to tell on the patient's strength, who became hectic, and subject to profuse night sweats, the diacetate of lead in three-grain doses, combined with one grain of opium, was now prescribed, with occasional draughts containing the compound tincture of rhubarb. A line of treatment which first

seemed to control the symptoms. But the discharge of pus, sometimes mixed with blood, and at other times pure, still continued; and pure blood, although not in large quantities, came away at intervals from the small opening at the navel.

On the whole, however, the patient was gaining ground; when, on visiting him on the 29th of November, in company with my friend Dr. Hunter, of Bryansford, we found the patient very low and much debilitated, from the effects of loss of blood, free hæmorrhage having taken place from the umbilical perforation during the night. The discharge had, however, ceased either spontaneously, or from the effect of applying cloths, dipped in cold water, and a mash of matico leaves to the opening—measures which his attendants had been directed to use, in anticipation of what actually occurred. When the hæmorrhage took place, the remedies above indicated had completely arrested the most urgent symptoms, and the patient had been perfectly free from pain and diarrhœa for the preceding five days. No additional light was thrown on the condition of the viscera, by the most careful examination; except that the liver, especially at its margin in the left hypochondriac region, seemed more dense and firm to the touch, than it had appeared to be on previous examinations. No pain, however, was felt on pressing it, and the increased density was probably only the result of congestion. Perspirations and hectic still continued. The continued use of matico to the part, and the most perfect quietude in the horizontal position, were enjoined, to guard, as far as possible, against a recurrence of the hæmorrhage, which, in the weakened condition of the patient, might have been attended with fatal consequences. Wine in due quantities, and opium in full doses, at bed-time, were allowed.

In three days the patient had rallied considerably, no recurrence of hæmorrhage having taken place, but a horribly fœtid chocolate-coloured sanies continued to ooze from the umbilical opening. This dark admixture, with the pus, and the sickening fœtor, probably arose from the putrefaction of the blood, which had been discharged into the cavity of the abscess, from whence issued the purulent matter, and some of which had lodged there, not gaining a free exit at the umbilicus. It seemed pretty evident that a circumscribed abscess had formed, which had, by glueing its anterior borders to the parietes of the abdomen, directed the purulent matter to the exterior, and prevented thereby the fatal results to be apprehended from its diffusion through the cavity of the abdomen. On the fifth of December, there had been no return of hæmorrhage, nor was the pus which continued to flow, although still of intolerably fœtid odour, much tinged with blood. His bowels were regulated with small doses of castor oil; and an accidental recurrence of the diarrhœa was checked by a draught containing tincture of rhubarb, calcined magnesia, and laudanum. On several occasions, a very considerable quantity of pus, mixed with gas, escaped when pressure was applied around the opening, especially on the left side of the umbilicus. The free exit of the matter seemed also to be promoted, when the patient, as he was directed, lay, from time to time, on his face. On the 20th of December, the discharge had nearly ceased, wine and opium being still allowed with evident benefit; and in two days more he was able to sit up; his strength was improved, his night-sweats completely gone, and his

appetite good. This improvement was in part attributed to the use of an infusion of cascarilla and decoction of chirayita (by the way a most excellent and agreeable bitter) which he had been taking for some days. On the night of the 25th, he again complained of pain in his bowels, which were rather costive, and for which he took a draught, containing Epsom salts, calcined magnesia, and rhubarb, to be repeated every two hours if necessary. When I visited him in the afternoon of the same day, I found that the medicine had not remained on his stomach, and he was suffering most acute agony from pain in the abdominal region, and he also complained of tenderness, on pressure, over the right hypochondriac region. Calomel, in three-grain doses, followed by half an ounce of castor oil, guarded with laudanum, was ordered. Hot fomentations were applied to the abdomen; leeches to the part where the greatest tenderness was manifest; and I further directed emollient injections, containing spirits of turpentine, to be administered, until the obstruction in the bowels should be overcome. On the following morning, although the pain was considerably abated, neither the medicines nor the injections, carefully repeated, had acted. I then ordered ten grains of grey powder to be made into two pills, with three drops of croton oil, and one given immediately, and the other, if necessary, in two hours; administering, at the same time, by Read's syringe, as much of a turpentine and warm water injection as the patient could bear, and which, when about three pints were thrown up, came away and brought off some scybalous and fæcal matter. The pain in the hypochondriac region, however, still continued; the pulse was 140, and all the symptoms most unpromising. December 27, pulse 144; *most profuse and uncontrollable stercoraceous vomiting had taken place; bowlfuls of almost pure fæces being thrown up from time to time.* The turpentine injections were repeated at intervals, and calomel and opium given in a pill every four hours; and the vomiting gradually ceased in the course of the day, free action of the bowels having taken place. Hydrocyanic acid seemed to have no effect in tranquillizing the stomach. December 28, pulse 110. Repet. pilulæ et enemata. 29. Patient better, and had some sleep last night. H. S. habeat hyd. c. cretâ, gr. vj; pulv. opii, gr. ij; able to take a little gruel. 30. Pulse 94, strength improved, no return of the vomiting, pains in the abdominal region quite gone, slight discharge from the umbilicus, and frequent diarrhœa. Habeat misturam astringentem c. tincturâ opii, cujus capiat cochleare parvum post singulas sedes liquidas.

The patient now went on favourably until the 6th of January in the present year, when he had some recurrence of the abdominal pains, with vomiting of greenish fluid. His bowels, notwithstanding every care to regulate them, having become again costive, he was directed to use castor oil and laudanum, and to repeat the injection. As I was confined to bed by indisposition, he was kindly visited for me, by my friend Dr. Filson, of Portaferry, who found the pulse to be 96; some discharge of matter, not fœtid, taking place from the umbilicus, and without any symptoms of hectic fever, or stercoraceous vomiting. The remedies employed had opened his bowels.

Jan. 8. As he still complained of pain, an anodyne draught was ordered by Dr. Filson, with good effect, and diarrhœa, with foul secre-

tions, having supervened, he also directed grey powder, with chalk and opium, to be taken three times a day, linseed poultices to be applied over the umbilicus, and the result of pressure effected by means of a bandage and graduated compresses, so as to direct the purulent discharge to the umbilical opening, tried; a measure which had also been previously suggested by Dr. Hunter. In about ten days more, the symptoms were in every respect much improved; but finding him still suffering from diarrhœa, I ordered compound powder of kino, and tincture of rhatany, with laudanum, which gradually brought his bowels into good order, interposing, at the same time, a teaspoonful of castor oil occasionally, when it seemed requisite.

Feb. 10. On visiting Smith this day, I found him able to sit up, his strength greatly improved, his bowels regular, no pain or uneasiness whatever, his pulse regular, the only remnant of his disease being a very slight occasional discharge of true non-fœtid pus from the opening at the umbilicus; so that after his long, varied, and severe sufferings, there is every reason to hope for his complete restoration to health, if no relapse should unfortunately recur. I should have observed, that after his last attack, on the 6th of January, the occurrence of pus in the stools led to the suspicion, that the abscess had effected a communication with the bowels, as well as with the exterior at the umbilicus.

Remarks. This case, as far as my experience and reading extend, is quite unique. It is true, I find six instances recorded by M'Cormac *(Methodus Medendi*, p. 265), Blackall, Peter Frank, and Dugès, where a discharge of sero-purulent fluid, consequent on peritonitis, took place through the umbilicus, and in most of which recovery took place. Dalmas also mentions one case, where the evacuation took place through the intestinal canal, and Abercrombie another, where the point of exit was at the ring of the external oblique muscle. But the profuse hæmorrhages, the intolerably fœtid nature of the discharges, and the intense stercoraceous vomiting, seem peculiar to Smith's case; and, combined with the other varying and protracted symptoms, the disease having lasted, to the present time, for more than four months, form a combination of symptoms occurring in the same case, to which I am not aware of any parallel. The due observation of the phenomena, at the time of their occurrence, has led me to arrange them as occurring in the following order. Inflammation attacked the mucous and muscular tissue of the intestinal canal, and subsequently extended to the peritoneum. The sero-purulent effusion having got exit from the ulceration occurring at the umbilicus, a circumscribed abscess would appear to have been formed, from which the purulent matter, in the subsequent stages of the disease, appear to have been discharged; the hæmorrhage taking place, possibly by exhalation, as observed by Andral, but more probably from ulceration of some vessel; and the blood, not being entirely discharged at the opening, giving rise, by its stagnation and putrefaction in the abscess, to the most insupportably fœtid odour I ever remember to have perceived. The appearance of pus in the stools, in the latter stage of the disease, would, as already stated, lead to the inference that the abscess had also communicated with the alimentary canal. Although some congestion was observed in the liver, I do not think that the

abscess had any connexion with that viscus; and cases have been recorded by Abercrombie and others, where circumscribed purulent abscesses, supposed to exist in the liver, have, on dissection, been found to be totally unconnected with that organ.

In offering this explanation of the probable causes of the successive phenomena, I do it with the diffidence naturally inspired by all cases in any degree obscure, where no opportunity has arisen for elucidating them by a careful examination after death. At all events, the leading phenomena are faithfully recorded from notes made at the time; for being very much interested in the case, I visited the patient more than sixty times during its progress, and the reader has therefore an opportunity of explaining the symptoms in his own way. The recovery of this poor man, and his restoration to his wife and family, were greatly aided by a full supply of the necessary nourishment, placed at his disposal by the benevolence of a lady of rank in the neighbourhood.

Strangford, April 1850.

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REGULATIONS TO BE OBSERVED BY STUDENTS INTENDING TO QUALIFY THEMSELVES TO PRACTICE AS APOTHECARIES IN ENGLAND AND WALES. 1850.

AT the termination of the last century, and at the commencement of the present, the MEDICAL PROFESSION was in a most deplorable condition in this country; and the ailments of the great mass of the public were entrusted to the management of grossly ignorant, and uneducated practitioners. Of the number of those who professed to practise the art of medicine, the physicians alone were under the control of collegiate authority, and subject to professional examination. The rest were left entirely to their own tastes; some, more conscientious than their fellows, devoted themselves to the routine of lectures and hospital practice, and a few, fired with a praiseworthy ambition, actually presented themselves for examination at Surgeon's Hall—an ordeal, however, which, we are well assured, was by no means one of great severity. Under this system, a few great physicians and surgeons were undoubtedly produced; but their brilliant talents served only to show in darker colours the profound ignorance of their contemporaries.

In these circumstances, some honourable and high-minded individuals, lamenting the degraded condition of the science and practice of medicine, formed themselves into an association, the objects of which were to place the profession in a better and nobler position, to improve the individual standing of its members, and to secure efficient medical attendance for the middle and lower classes of society. These objects they pursued with unwearied perseverance, and amidst innumerable difficulties, owing chiefly to the opposition of the medical corporations, but partly to the apathy of the community. However, they finally succeeded in inducing the legislature to pass an Act, known as the Apothecaries' Act of 1815, by which Act, some of the objects in contemplation were attained; while others were frustrated by influences to which it is not necessary at present to advert. Such as it was, however, the Act passed both the Houses of Parliament, and received the Royal assent; and since that time, it has been the law of the land. It is hardly necessary perhaps to state that the powers, conferred by the Act, were successively offered to the Colleges of Physicians and Surgeons, and declined by both these bodies; they were at last offered to the Society of Apothecaries, and by them they were accepted. The Society were thereby empowered to appoint annually twelve examiners from their own members, whose duties were to consist in examining candidates for their certificate, and also to direct the course of study to be followed by the pupils. The Act moreover conferred upon the Society the power of prosecuting unqualified practitioners.

Since the Act of 1815, a great and striking change has been effected in the profession. The heterogeneous multitude who practise medicine, are now subjected to certain rules, are expected to attend lectures and clinical instruction, and are compelled, before entering into practice, to submit to an examination. This examination, which at first was imperfect and superficial, has gradually become more and more extensive and stringent, in proportion to the increased facilities offered to the student for the acquisition of medical knowledge. Hence has arisen a marked improvement in the *status* of the general practitioner. The knowledge of anatomy, physiology, chemistry, medicine, surgery, obstetrics, and pathology, has been widely diffused; and in every corner of the kingdom, in every provincial town, and even almost in every village, are to be found conscientious and scientific professors of the healing art in all its branches. The metropolis can no longer claim a monopoly of the talent of our profession.

The advantages which have accrued to the community, from this improvement in medical education, are incalculable; the middle and the lower classes (including the meanest pauper), who were formerly committed to the mercy of the charlatan or the druggist, or left to their fate, are now provided with competent medical attendance at a moderate, and, we regret to add, too often, a most inadequate remuneration. Nor have these advantages been confined to the general practitioners; for their elevation has given a vast stimulus to those who style themselves pure physicians and pure surgeons. The College of Physicians have relaxed many of their former vexatious restrictions, and have thrown open their doors to all *bonâ fide* graduates, and to others who are not graduates, if they can pass the very efficient examination which, of late years, has been instituted: the College of Surgeons have gradually improved the curriculum of education required of their students, and have instituted examinations, which, though lax and defective, are much more efficient than in former years. The just celebrity of the University of London, although little more than ten years have elapsed since its foundation, already sheds lustre upon the British metropolis; and among its graduates we could point to the best hopes of our profession.

We by no means assert, that all these beneficial changes have resulted from the Act of 1815; much is no doubt due to the spirit of the age, rousing the torpor, and infusing a more generous feeling into the Colleges. But it is certain, that the improvement of the general practitioner is clearly to be attributed to the operation of that Act of Parliament, imperfect and faulty as it undoubtedly is.

Such being the changes which have been effected in the constitution of the medical profession during the first half of the present century, it was with no small degree of amazement that we heard Mr. Skey, the Hunterian orator for 1850, gravely and emphatically declare that the profession of medicine, at the present day, is "a degenerate pursuit!" He appears himself to feel that the use of such a phrase is open to criticism and liable to objection, and he, therefore, in his preface, proceeds to justify it in the following terms. "In justification of the term 'degenerate,' I would urge on the recollection of the reader, the condition of the profession at the latter end of the seventeenth century. At that time, the physician monopolized the entire rank and name of the practitioner of medicine:—the surgeon was a mere operative, identified with a menial trade; and the apothecary a drug-vender, having, like the surgeon, no claims to medical knowledge, *quoad* the treatment of disease, as may be inferred from the following lines of Dryden:

> 'Physicians from the tree have found the bark;
> They labouring for relief of human kind,
> With sharpened sight some remedies may find,
> The apothecary-train are wholly blind.'"

In the present day; the physician no longer monopolizes "the entire rank and name of the practitioner of medicine," but shares that rank with a multitude of others, who are not physicians; the surgeon is no longer "a mere operative, identified with a menial trade", but is an educated gentleman, and a member of a Royal College; the "apothecary-train" are no longer "wholly blind", but have their eyes pretty widely open: Therefore, (says Mr. Skey triumphantly), "am I not justified in assuming that, taking our profession as a whole, the entire body is *degenerate* from its former eminence?"

Is Mr. Skey serious in penning the above lines? For if so, he must surely leave it to be inferred, that if the apothecaries of the present day were again to be reduced to the condition of "drug-venders having no knowledge of disease"; if the members of the Royal College of Surgeons were again to be reduced to the rank and to the employment of barbers; and if the bag-wig and the gold-headed cane of the physician were again to be considered as the symbols of the concentrated medical knowledge of the empire—then the dream

of his Hunterian Oration, concerning the degeneration of the medical profession, would be abundantly realized.

Having pronounced the profession of medicine to be a degenerate pursuit in the present day, Mr. Skey proceeds to point out the causes of its decline, and of the low estimation in which it is held by the community. He begins by declaring, that "by far the greatest of all the difficulties under which the profession of medicine labours, may be referred to the WANT OF EDUCATION;" and he proceeds to show, in very eloquent and appropriate language, the great benefits of literary and scientific attainments in those who are intended for the medical profession; and then he goes on to state his opinion, that "the almost universal neglect of these pursuits in early life, and the want of cultivation, both of philosophy and general science, are among the chief causes by which medicine is degraded in the present day." In these remarks we most heartily concur with Mr. Skey; and we also coincide with him, in thinking that some form of preliminary knowledge should be rendered compulsory on those who are destined to become members of the medical profession. But the language of Mr. Skey on this point, really conveys the most bitter reproof against the governing body of his own College; for, with the full power of demanding at least some evidence of preliminary knowledge from the candidates for their diploma, they have uniformly neglected to do so; and the only evidence of Latinity which is required at the College, from their alumni, is a very superficial and imperfect examination in that language, in the case of the few students who are articled at the College. For fifty years, the College has shown itself wholly indifferent to the preliminary education of its members; and it is a notorious fact, that the most idle and ignorant students invariably prefer trying their chance at the College to attempting any other examination; because, among other reasons, they escape the Latin at the former place. We are credibly informed, that many of the members of the College of Surgeons are rejected by the "apothecary-train," at Blackfriars, for gross ignorance of the very rudiments of the Latin language. But we are doing injustice to the Royal College of Surgeons; the Council of that learned body have suddenly awoke from their mesmeric sleep, and have lately startled the world by demanding from the candidates for their fellowship, not only a knowledge of the Latin language, but also of the Greek, German, and French, together with mathematics, optics, and hydrostatics! As this is a step in the right direction, we are by no means disposed to find fault with it; on the contrary, we most highly approve it, and we only regret, in Mr. Skey's own words, "that this important requisition is not made referable to the *first*, rather than to the *last* stage in the career of the student." We would ask in addition, why, if classical, and mathematical, and philosophical, and philological knowledge are so necessary and so desirable, (as they undoubtedly are), in the *Fellow* of the Royal College of Surgeons, are they so utterly valueless in the *Member?* Why is the Member to be encouraged in his utter contempt for the mere elements of Latin grammar, while the Fellow is to translate Greek and Latin into English, and English back again into Latin and Greek, and is to be conversant, moreover, with the modern languages, and with mathematics, and natural philosophy? IS IT BECAUSE THE COUNCIL OF THE COLLEGE DESIRES TO FIX A BRAND OF DEGRADATION UPON THEIR MEMBERS, WHO FORM BY FAR THE GREATEST NUMBER OF THEIR BODY, AND CONTRIBUTE MOST LARGELY TO THEIR FUNDS; AND THUS TO SECURE, AS FAR AS POSSIBLE, A MARKED INFERIORITY—IN FACT, THAT DEGENERACY WHICH THE ORATOR SO ELOQUENTLY DENOUNCES?

The next important point to which Mr. Skey alludes, is the system of APPRENTICESHIP, which, according to him, is "little more or less than an ingenious device by which to exhaust or render nugatory, four or more invaluable years of the early life of the student." "During these four or more years, the so-called student *is compelled to practise the art of manipulation*, which consists in the wielding the important instruments placed at his command;

while he holds converse with the languages of the philosophers and orators of the past world, in a refined Latinity obtained from his master's day-book." "To this disgraceful system of officinal drudgery, the medical profession has lent itself in direct contravention of the laws of moral right, of reason, and of common sense"; and he continues: "I ask you whether the rooted injury thus perpetrated by *four or more long years of personal servitude*, in which the only distinction discoverable between his lot *and that of an ordinary servant*, consists in the fact, that he is made *the purchaser of his own degradation*, does not inflict a wrong on the mind and habits of a youth, which, in a very large majority of cases, no future opportunities of study, no future discipline, can redress or justify." Upon these passages, we shall remark in the first place, that the whole of them are gross exaggerations, while some of the statements are positively erroneous; but we are saved the trouble of many remarks upon this subject, by simply quoting the following lines from the regulations of the Court of Examiners of the Society of Apothecaries, published in 1835, and which have now, therefore, been in the hands of the profession *for fifteen years*.

"The legislature having made an apprenticeship of five years imperative upon all students, and having permitted them to present themselves for examination at the age of twenty-one, obviously intended that the greater part of their medical education should be included within that period; and the Court have great pleasure in stating that, in very many instances, students have actually completed their course of study, and have been admitted to examination, *within a few weeks after the termination of their apprenticeship*. It is, however, to be regretted, that this advantage has been frequently lost sight of, and that a great proportion of this valuable time, and not unfrequently the whole of it, has been passed exclusively in practical pharmacy. The Court are desirous of impressing upon parents the necessity of *preventing this waste of time*, by making such arrangements with practitioners, with whom they place their sons, *as may enable the young men to commence their attendance upon lectures in the course of the third year of their apprenticeship*."

Such are the recommendations issued by the Society of Apothecaries, with whom rests the administration of the Act of 1815: with these recommendations, the professors and teachers of the medical schools, and the pupils themselves, are all thoroughly acquainted. Mr. Skey, as an Hospital-Surgeon and a Professor, knows, perfectly well, that hundreds of students annually present themselves at the College of Surgeons and at Apothecaries' Hall for examination at the age of twenty-one, having completed the whole of their studies (including three years, and often more, of attendance upon lectures and hospital practice); nevertheless, in the year 1850, Mr. Skey declares that the "so-called student *is compelled* to practise the art of manipulation for four or more years;" that "a rooted injury is perpetrated by four or more long years of *personal servitude;*" and that the profession has "lent itself to this disgraceful system of *officinal drudgery*."

Now, as we are as much opposed as Mr. Skey can be, to any system of personal servitude, or of officinal drudgery, which we are convinced was never either contemplated by the legislature or sanctioned by the profession, we are happy to quote the following passages from the *Preface to the Regulations of the Court of Examiners of the Society of Apothecaries for the year* 1850, which sentences place the matter in question in a still stronger light.—"The Court of Examiners have always regarded the term of apprenticeship required by the Act of Parliament of 1815, *as a period of study*, to be employed by the pupil, under the superintendence of a practitioner, *not merely in dispensing medicines*, but also *in attendance upon lectures and hospital practice*: and they have felt justified, after careful consideration of the clause in the Act relating to apprentices, in giving to it this enlarged and liberal interpretation. In repeating their opinion at the present opportunity, they are induced to hope that parents, in selecting the practitioners with whom they

place their sons, and in the arrangements made between them, will bear in recollection, that *the Court do not require a servitude of five years to practical pharmacy;* but that they recommend *every possible opportunity to be afforded to the pupils for their moral, intellectual, and professional advancement.*"

It is not our intention to enter into any defence of the system of apprenticeship; it appears that the clause in the Act relating to apprentices, was introduced by the House of Lords during the passage of the Bill through the different branches of the legislature, and that it was not solicited or recommended by any of the parties who were anxious for the success of the measure. But we cannot help remarking, that it appears to us, that the evils of this system have been grossly exaggerated; and while we willingly admit that an extensive course of collegiate education in classics and mathematics, followed by a strictly medical education extended over many years, is far better than any apprenticeship: yet, as such a course of study is incompatible with the means and the expectations of the great bulk of medical students, we do not regard the present system with such utter abhorrence as some of our contemporaries. Nay, we may go a little farther, and may agree, that if the pupil, at the commencement of his career, is "compelled" for a year or two, "to wield the important instruments placed at his command," by which, we apprehend, is meant the art of compounding medicines, together, probably, with learning how to bleed, draw teeth, dress wounds, apply bandages, read prescriptions, etc., we cannot conceive that the pupil will make a worse practitioner in after-life. We know, and could point out instances, where persons, in the highest rank of the profession, have made the grossest mistakes from the want of knowledge of the rudiments of pharmacy; and we therefore think it desirable, even in cases where no apprenticeship exists, that the pupils should "wield," for a short time, the implements which, if he does not use them himself, he is afterwards to recommend in the treatment of disease. We cannot but remark, also, that where the pupil is diligent, and the master conscientious, the period of apprenticeship is not only passed without inconvenience, but is attended with positive advantage: for, in the familiar intercourse of domestic life, a vast mass of information may be conveyed to the pupil in the most pleasing form, and it would be a libel upon the general practitioners of this country, to maintain that many such conscientious instructors of youth are not to be found. If, indeed, parents are actuated merely with a view to pecuniary saving, and bind their sons to the lowest members of the profession, on the distinct understanding that the pupils are to work in proportion to the smallness of the premium, we cannot see that any parties have a right to complain; and if such pupils do spend four or more years in personal servitude, we have no sympathy for them, and leave them to the compassion of the Hunterian Orator.

Another remarkable feature in the Hunterian Oration, is AN ATTACK UPON THE GENERAL PRACTITIONERS of this country. "The general practitioner", says Mr. Skey, "is an amphibious link between a profession and a trade.... He is permitted a remunerative profit on the materials of his druggist, on the mechanical agents of treatment, not on the exercise of the judgment that selects them. For his loss of time, or his knowledge, however superior to others, he attains no certain compensation.... I do not hesitate to assert, that it is impossible, in many cases, for the medical attendant to be remunerated, but by the resort to means, which high principle must proclaim in his own breast to be indirect, and even disingenuous." Now, like many other portions of Mr. Skey's oration, a great part of his remarks upon the state of general practice in England may be set down to exaggeration, and some to misrepresentation; and it must be observed throughout, that he is fond of representing the errors and defects of any given system, as forming its intrinsic essence. Thus, because among those who are styled general practitioners, some do, and some do not dispense their own medicines, and a third class adopt a plan (which we greatly disapprove) of charging so much for the medicines they

supply; "*therefore*," says Mr. Skey, "the general practitioner is an amphibious link between a profession and a trade." But we must examine Mr. Skey's statements rather more closely. "If," says he, "the law award payment for physic only, *of necessity* the medical attendant disposes of as large a quantity as is compatible with the digestive capabilities of the patient." No doubt "if the law award payment for physic only," *then* the practitioner is tempted to send as much medicine as his patient's stomach and pocket can bear; but the law does no such thing; and it has been decided over and over again in the courts of justice, that a medical man may obtain compensation for his professional services, independently of his drugs; and we really cannot help expressing our amazement that Mr. Skey should venture upon an assertion which has not the slightest foundation. We thus proceed to demolish, by argument, the whole structure of Mr. Skey's denunciation of general practice. "If," say we, "the law affords compensation for medical services independently of drugs, as it undoubtedly does, then the practitioner need not consult the digestive capabilities of his patients as to the amount of physic they are able to swallow; *therefore*, he may claim a compensation for his medical services independently of drugs, and, *therefore*, (as trade consists in the mere selling and buying of commodities), the general practitioner is not necessarily an amphibious link between a profession and a trade." It is very far from our intention to defend the sale of drugs by the members of a learned profession; we confess to a feeling of abhorrence at seeing (as we have seen), the diploma of the College of Surgeons of England, placed in a shop-window in juxtaposition with lozenges, barley-sugar, soap, perfumery, and antibilious pills; but we cannot view in the same light, the custom prevailing among many medical men, of providing the necessary medicines for their patients, and charging for their attendance; and we believe that such is the practice of many of the most respectable members of the medical profession in this country. Employed in this manner, medicines are nothing more nor less than the instruments in the hands of the practitioner, and he is no more to be blamed and insulted for employing his calomel pill or his opiate draught, than Mr. Skey, the pure surgeon, is to be ridiculed and abused for using his catheter, splints, or lancet: in neither case does the party claim remuneration for the instruments used, but for the skill required in using them.

Without entering into any elaborate defence of general practice, it may be safely argued, that it is very well adapted for the wants of the great bulk of the community. In the metropolis, and a few other places, where wealth is abundant and talent diversified, a division of labour commands a sufficient remuneration, and finds ample scope for exertion. The Countess of A., or Mrs. B., the city millionaire's wife, has a physician for one complaint, a surgeon for another, a physician-accoucheur for a third, and an apothecary, probably, provides the medicines and attends the children and the servants. But how is this possible for a person in ordinary circumstances, and, *à fortiori*—how impracticable for the lower classes? It is, therefore, absolutely necessary, that, to supply the wants of the middle and lower classes in the metropolis, and of nearly all ranks in the provincial towns and villages, there should exist a branch of the profession, the members of which must be generally competent to undertake the management of all diseases. Whether this branch of the profession do, or do not supply their patients with medicines, is, in our opinion, quite immaterial. If any practitioner inundate his patient's house with draughts and mixtures, it is quite competent for the patient—nay, it is his duty,—to dismiss the "amphibious" gentleman, and avail himself of the services of another who adopts an opposite system; but that the mere fact of a patient being supplied by his medical attendant with the necessary medicine, should subject the practitioner to be insulted and reviled, spoken scornfully of as a pedling tradesman, and almost accused of dishonesty, appears to us to be as monstrous, as it is a ridiculous perversion of common sense. In some cases, it is highly necessary and desirable, that the medicines

should be supplied by the medical attendant; where, for instance, very active drugs are employed, their preparation and composition should be superintended by a man possessing some scientific knowledge. Again, in many situations, as in country villages, or at sea, in military practice, or in the colonies, the medical practitioner *must*, in nine out of ten cases, be the dispenser of his own medicines; and why this circumstance, *per se*, should fix the brand of unprofessional conduct or of inferiority, on the character of a medical man, we are wholly at a loss to conceive; and, therefore, we emphatically deny.

If Mr. Skey had availed himself of the opportunity afforded him of recommending the discontinuance *of the system of charging for drugs*, he would have done no more than his duty; but, as he has taken advantage of his position to indulge in an indiscriminate and ill-timed attack upon general practice, we cannot wonder that he has drawn upon himself the just indignation of a most meritorious, a most ill-used, and a most ill-paid, and, as yet, unprotected class of his profession.

At the commencement of page 32, Mr. Skey declaims as follows: "I conceive that so long as the general practitioner consents to subject his professional practice to such degrading conditions, he is unworthy the rank and estimate of a professional man. Medicines should be dispensed at their real, not their adventitious value. With one voice, this department of the whole profession should cry aloud, and claim their indisputable right to repudiate a practice so vicious, both as regards their own high claims, and their utility to others; and obtain from Parliament the title to a remuneration, more consistent with the real services they have rendered, and less derogatory to the repute of the high profession to which they belong." Now, as a piece of rhetorical flourish, this is all very well; but what are the "degrading conditions" to which the practitioner is obliged to submit? We have already shewn that the dispensing of medicines is purely a matter of convenience and of private arrangement, and that no practitioner need do so, unless he choose, as the law allows him to claim compensation for his services, either with or without medicines. But general practitioners are to "cry aloud" and "obtain from Parliament the title to a remuneration more consistent," etc. What are the general practitioners to "cry aloud" for? and what are they to expect to obtain from Parliament? There is no occasion to cry aloud for a title to a remuneration which the law already allows them! But is it intended that Parliament is forcibly to separate the supply of drugs from the practice of physic, to abolish dispensing on the part of the practitioner, and throw it entirely into the hands of the druggist?[1] If this be done, we are then tempted to ask, moreover, whether it is intended that Parliament is to arrange a tariff of fees for the payment of the practitioner? and on what principle this tariff of fees is to be arranged? whether, as in the case of solicitors, all persons, whether peers, judges, merchants, tradesmen, servants, or labourers, are to be equally charged six shillings and eight-pence a visit? or whether the fee is to be regulated according to the rank, or station, or wealth, or poverty of the patient? or according to the rank or the abilities of the practitioner?

In France, and in Scotland, where the dispensing of drugs is principally

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[1] The druggist, be it remembered, generally prescribes medicines to all who come with ready money, too often strives to injure practitioners who supply medicine to their patients, and patronizes others who send prescriptions to his shop. The chief business of the petty druggists is prescribing. We find the following *morceau* in the Registrar-General's Report for the week ending Saturday, April 20, 1850. "In Charing Cross sub-district, at 22, Salisbury Street, a gentlewoman, aged 37 years, died of 'aneurism, and extensive disease of the aorta, spasmodic collapse (thirty-five minutes). *Post-mort.*' Mr. Leonard states, that 'the deceased retired to bed, having previously taken a draught, made up by a chemist, *on the verbal report of her servant;* was seized with vomiting and violent pains in the bowels, and soon died, exclaiming, '*Am I poisoned?*' just before death."

in the hands of the druggists, is the emolument or social rank of the profession higher than in England?

We leave these questions for Mr. Skey's meditation; and, in the mean time, we may as well express our opinion, that the remuneration of the medical profession must, after all, for the most part, be a matter of arrangement between the patient and his medical attendant, and must depend upon conventional usages, upon the circumstances of the times, and upon the mutual honour of the parties.

One word more, and we have done with the Hunterian Oration. There is in this composition, amidst a great quantity of clap-trap, some really good writing, and it also contains sentiments in which every upright medical practitioner must cordially concur. Yet we cannot but express our regret, that Mr. Skey did not submit his manuscript, before its publication, to the pruning-knife of a judicious friend, acquainted with the present transition-state of medical practice,—a course which might have prevented him from offering much unprovoked insult, and from making many erroneous statements, calculated to exasperate the great body of his brethren, and to unjustly lower them in public estimation.

The Regulations of the Court of Examiners of the Society of Apothecaries for 1850, form a very important, although a very unpretending, production. The Society of Apothecaries possess no *prestige* to render themselves attractive to the medical public; they have silently and unostentatiously performed, for upwards of thirty-five years, the duties delegated to them by the Legislature in 1815. They have done more to elevate the tone of medical education than any of the Colleges; and until some better system, or one as good, be generally adopted and sanctioned by the Legislature, it is to be hoped that they will be encouraged in their laudable efforts to maintain the high standard of medical education which they have endeavoured to establish. We are by no means disposed to pass an unqualified eulogium on the Society of Apothecaries; but we must, in common justice, offer a few remarks which may, perhaps, remove some very erroneous impressions entertained in respect to the Society. In the first place, the Society, it appears, derive no benefit whatever from exercising the Act of Parliament, beyond the power of electing the Examiners; and it is therefore evident that, whether they retain their privileges or abandon them, they can have no interested views in the result. The Examiners are chosen from the members of the Society, and must be practitioners of ten years' standing; they are not chosen by seniority, but are *selected* on account of their talents, and are liable to removal from time to time. Now nothing can be fairer than such a system, for the Examiners are neither self-elected nor irresponsible; and the only question is, whether the system has been fairly worked out. It has been objected to the composition of this Court, that its members are undistinguished in the eyes of the medical profession; and this objection would have more weight were it not known that, by a bye-law of the Society, "no Member of the Court of Examiners will be recognized as a Teacher on any branch of Medical Science". However competent, therefore, a man may be as a lecturer, he is utterly forbidden to exercise his talents so long as he remains in the Court of Examiners; and hence, as Hospital Surgeons or Physicians, or as Lecturers or Professors, the members of the Court of Examiners never *can* become known to the profession. But by this regulation, the Court of Examiners are placed in a position of great independence, and their integrity must be unquestionable; for, as they have no personal interest either in the schools or in the pupils, they are able to perform their duties to all, without favour or affection to any. The "Regulations" which they have lately published, afford, we think, a convincing proof of the soundness of their views and the correctness of their intentions.

Desirous of elevating the character of the medical student, they urge most

strongly the great importance of preliminary knowledge, and they lay much stress upon the lamentable fact, that a great number of the rejections which take place, are owing to a total ignorance of the Latin language. They then proceed to state : "In accordance with recommendations, published many years since, the Court consider that the pupil, *before he enters upon his medical studies*, should possess a competent knowledge of the classics, so as to be able to translate any easy Greek or Latin author ; and that he should also be acquainted with the elements of mathematics and of natural philosophy, and should acquire one or more of the modern languages—French, German, or Italian."

On referring to copies of former regulations, issued by the Court, we find sentiments expressed of a precisely similar nature. In page 3, of the Regulations of 1830, the Court "beg seriously to impress upon parents and guardians, who destine the youth, under their care, to the study of medicine, that a *familiar* acquaintance with the Latin language is indispensable, and that a knowledge of Greek is scarcely less so"; and they also recommend their pupils to study natural history, and the *exact* sciences. In 1832, they recommend a familiar knowledge of Latin and Greek, together with an acquaintance with the mathematical sciences, and with the French and German languages. These recommendations are repeated in all the subsequent regulations. But the Court have not been satisfied with merely *recommending* this preliminary knowledge: in the case of the Latin language, they have systematically *enforced* it, as is proved by the number of rejections which have taken place, solely for ignorance of Latin.

We have, lying before us, a copy of the regulations, dated July 31, 1815, wherein the candidate for examination is required to possess a competent knowledge of the Latin language, and to evince it by translating parts of the *Pharmacopœia Londinensis*, and physicians' prescriptions. In 1827, the candidate for examination is required "to translate, *grammatically*, parts of the *Pharmacopœia Londinensis* and physicians' prescriptions", and "should any doubt arise as to the candidate's possessing a competent knowledge of Latin, he will be required to translate a passage or passages from some one of the easier Latin authors." In 1830, the candidate is required to translate parts of *Celsus de Medicinâ*, or *Gregory's Conspectus Medicinæ Theoreticæ, in* addition to the *Pharmacopœia Londinensis*, and physicians' prescriptions ; and in 1850, they have recurred to a plan which they originated, we believe, in 1839, of volunteering to institute a separate Latin examination on a day distinct from that of the general examination ; a plan which has the twofold object of relieving the student from the Latin test at an early period of his medical studies, and of ascertaining carefully that he understands not only the mode of translating the language, but also its grammatical construction.

In this conflict with the powers of darkness, the Court of Examiners, so far as England is concerned,[1] have fought the battle single-handed. The College of Surgeons, the only other corporation with which the general practitioners, as a body, are in any way connected, have never considered it worth their while to urge on their candidates the importance of the Latin, or any other language; indeed, the only opportunities that the general practitioners enjoy, of knowing that any branch of human science is expected of them by the College, except anatomy and surgery, are when they are called together to be abused and ridiculed by the Hunterian Orators, for not knowing what the College never required them to learn.

In that part of the Regulations of the Court of Examiners of the Apothecaries' Society, which refers to purely medical subjects, the object seems to be to direct the attention of the students to practical science ; and we perceive, with great pleasure, two or three very important alterations in their present

[1] The College of Surgeons of Edinburgh are deserving of the highest praise for what they have done to elevate the tone of the preliminary and professional studies of their students.

regulations as compared with those issued in former years. In the first place, we perceive that the subject of practical chemistry is now brought prominently forward; and this regulation, which enforces upon each student a course of distinct chemical manipulations performed by himself, in addition to the mere attendance on the systematic course, must tend most materially to impress the facts of this most important and most delightful science upon the minds of the pupils. It can never be too strongly urged upon the attention of medical students, that the science of medicine is not only one of theory, but also one of observation and experience; and that those things which are *seen* and *felt*, make far more impression than those which are merely *heard* from the lecture-table.

"Segniùs irritant animos demissa per aures,
Quàm quæ sunt oculis subjecta fidelibus."

Believing, therefore, as we do, that chemistry is equally important with anatomy, and that they form, together, the basis of scientific medicine, we hail with great pleasure the prominent place which chemistry is now made to occupy, as a practical pursuit.

The next subject to which we may advert, is of still greater importance; and this is the direct encouragement now given to the STUDY OF CLINICAL MEDICINE, which stands in the same relation to the theory and practice of medicine, as practical chemistry does to the systematic lectures on that subject. It is notorious that hitherto clinical teaching has been most grossly neglected in the metropolis, notwithstanding the abundant opportunities afforded for its cultivation, by our splendid and richly endowed hospitals; and the consequence has been, that the best of our students have been in the habit of resorting to Edinburgh or to Paris, for that instruction which they have been unable to obtain in London. There can be no doubt that a course of systematic lectures on medicine is highly important to the student in paving the way for his practising, in future, with safety and advantage; but it is equally important, that he should verify, by the evidence of his own senses of sight and touch, at the bed-side, and in the anatomical inspection-room, the facts or doctrines which have been enunciated in the lecture-hall. Students have been compelled to attend too many lectures, and, amidst the multiplicity of oral discourses, have too generally neglected that *practical* study to which the lectures merely form the introduction. But on this point we cannot do better than quote the following passage from the regulations. "The Court would also invite the student to test, by his own experience, and the exercise of his reasoning powers, the truth of the facts and theories which are offered to his notice. While, therefore, they strenuously urge a diligent attendance upon the various lectures delivered by the teachers, and a careful study of the works recommended by them, they would as strongly recommend an unremitting devotion to the practical duties of the hospital, the dead-house, the chemical laboratory, and the dissecting-room."

The Court appear to be dissatisfied with the present system of teaching at the medical schools, and we confess that we do not wonder at their dissatisfaction. Teaching is too often undertaken, not for the purpose of instructing the student, but in order to bring the teacher into public notice. Hence, the lecturers are by no means sufficiently impressed, that the duty devolves upon them, not merely of *delivering* their lectures, but of ascertaining afterwards, by oral examination, whether the student has understood their import. The Court, therefore, strongly recommend that a friendly and cordial feeling should be cherished between the teachers and the pupils, and that the former should subject their classes repeatedly to catechetical instruction, conveyed by questions and answers; a plan which, if generally adopted, would, in their opinion (and also we may add, in ours), contribute very materially to obviate the practice of *grinding*, by doing away with its necessity. The custom of *grinding*, in fact, is a necessary evil, resulting from the laxity of the teachers, who, if they cannot perform their duties themselves, should delegate their performance to others. In short, let the grinders be recog-

nized as auxiliary teachers at the medical schools. Thus, a system would be established similar to that of private tuition at Oxford and Cambridge,—a system, which has never, so far as we know, produced any prejudicial result either to the attainments of the pupils or the reputation of the Universities.

Whatever objections may be raised to particular portions of the "Regulations", they are evidently dictated by a sincere desire to improve the *status* and increase the usefulness of the General Practitioners. As the Court of Examiners are, for reasons above stated, quite above the suspicion of interested motives, we feel bound to accord them our hearty meed of approbation, and to thank them, on behalf of the profession and of the whole community, for their earnest endeavours, under many discouragements, to elevate the character of that class of medical practitioners to whose charge is committed the entire pauper population, and a majority of all classes of society.

A Treatise on Diseases of the Bones. By Edward Stanley, F.R.C.S., President of the Royal College of Surgeons of England, and Surgeon to St. Bartholomew's Hospital. Post 8vo. pp. 367. London: 1849.

If a man steadily apply his powers of observation during a long period, to any subject, he cannot fail to be rewarded for his diligence, by gaining an amount of knowledge beyond his fellows. Such is the case in the present instance. Mr. Stanley has for many years been investigating the diseases of the osseous structures, with all the advantages which a command of the wards of the largest hospital in London, and an unlimited admission to anatomical collections, public and private, could afford. For more than ten years has the book been expected; but the delay in its appearance is by no means to be regretted, for it has enabled the author to avail himself of recent pathological and microscopical discoveries, which have been neither few nor unimportant.

Hypertrophy and Atrophy of Bone are first considered. The former disease is most frequent in the bones of the face, and is familiar to most surgeons who have the opportunity of observing hospital practice. When Hypertrophy occurs in the long Bones, it may cause increase in length as well as in bulk, giving rise to inequality between the limbs, and much inconvenience. Atrophy, on the other hand, may arrest the development of Bones, and cause a shortened limb. A very remarkable case is mentioned, in which the growth of the lower jaw was arrested in a child at the age of two years, causing, in after-life, a singular deformity. As regards treatment, but little can be done in these cases.

Neuralgia of Bone, is a term applied by Mr. Stanley to a painful condition of these structures, which, we suspect, comes under the class of hysterical affections. Three cases are mentioned,—all of females under thirty, and the general symptoms are those characteristic of hysteria. In one, amputation was performed; but with the exception of certain dark patches, resembling ecchymoses, in the cancellous structure of the condyles of the femur, nothing abnormal was found.

Inflammation of Bone. Enlargement of Bone is the general effect of Inflammation of its tissues; but its characters vary with the circumstances giving rise to the inflammation. It may be accompanied by expansion or induration of the Bone, or by osseous deposits on its surface; and, according to recent observation, expansion of tissue is one of the most frequent alterations to which it is liable. The result is softening of the bone by separation of the walls of the cells and widening of their interstices. Mr. Stanley believes that a bone, once so enlarged, will permanently remain so. Another change is, that after the separation and widening have taken place, the lamellæ become thickened, hardened, and consolidated—producing induration of the tissue; the solidity being due to the formation of concentric osseous lamiuæ

upon the insides of the Haversian canals, narrowing some, and obliterating others. Accordingly, indurated Bone is less vascular and oily than healthy Bone, and sometimes acquires the colour, as well as the compactness and weight of ivory.

No structure of the body surpasses bone in the perfection with which it exemplifies the singular law of symmetry of disease. The two sides of the pelvis will present changes, the very counterpart of each other. The long bone will enlarge equally, and present evidence of morbid action identical in every hollow, ridge, and swelling; and from no disease are such results so frequent as from rheumatic inflammation. On such enlarged and indurated bones, medicines have no effect: the unhappy subjects are doomed to drag about with them, for the remainder of their days, the heavy and misshapen limbs:—

"Monstrum horrendum, informe, ingens!"

Mr. Quekett has observed, that with induration of the articular ends of bones, their surfaces, when deprived of cartilage, become smooth and polished with a porcellanous appearance, from the blocking up of the Haversian canals with earthy substance.

Suppuration in Bone is of two kinds, circumscribed and diffused. The latter is a very formidable disease, causing great constitutional disturbance, and much local mischief, as proved by several cases related. The circumscribed suppuration is less formidable; but its diagnosis is of importance, as it may be confounded with simple inflammation, and also with the neuralgic or hysterical affection before alluded to. As regards the treatment of Suppuration in Bone, there is nothing deserving of special mention for its novelty, although the rules laid down are excellent.

Caries. By Caries, Mr. Stanley designates those changes which, under certain circumstances, are consequent on chronic suppuration in the cancellous texture of Bone. He distinguishes the simple, scrofulous, syphilitic, and phagædenic varieties. The following is the description of the phenomena attendant on the progress of Caries. "Inflammation extends from the bone to its investing soft parts, which become swollen, thickened, and tender, and abscesses are formed in them which contract into fistulous passages, leading to the diseased bone. The periosteum covering the diseased bone becomes thickened, very vacular, and readily separable from it. The bone itself is at first very vascular, then its cells become filled with a reddish brown fluid, apparently a mixture of blood and pus, and occasionally combined with oily particles. Absorption of the bone, but chiefly of its animal part, ensues; that which remains is porous and fragile, and of a grey brown or black colour, probably from decomposition of the matter within its cells; to which cause likewise, the fœtid odour of the matter discharged through the fistulous passage may be ascribed. The diseased bone may gradually disappear, either by ulceration, or by its discharge in fragments through the fistulous passages in the surrounding soft parts. Ulceration in some instances commences within the bone, hollowing it out and reducing it to a thin shell; in others, ulceration commences in the outer surface of the bone and extends progressively inwards. Whilst these changes are in progress, granulations, very loose and spongy, and bleeding on the slightest touch, often arise from the diseased bone, filling the cavities in its interior, and protruding through the fistulous passages in the soft parts covering it." (p. 52.)

With respect to the treatment of Caries, incisions through the soft parts to let out the matter, and soothing applications, are chiefly recommended. Operative measures are to be resorted to with caution, but great stress is laid on absolute quietude of the limb. In certain cases, the iodide of potassium is of great service, by arresting the inflammation of the periosteum covering the diseased bone.

Ulceration of Bone. On this, valuable remarks are made; and the fol-

lowing points of diagnosis may be advantageously borne in mind. "The Ulceration of Bone, which is the effect of single inflammation in its tissue, usually begins at a simple point, and spreads equally in width and depth. When, however, the ulceration is consequent on inflammation of the periosteum, it spreads widely over the surface of the bone, but does not in general deeply penetrate its substance. Syphilitic ulceration usually begins at many points, distinct yet close together, giving to the appearance of the bone a worm-eaten appearance. Malignant Ulceration of Bone is generally irregular in its outline and surface; and it extends in a manner to form excavations in the bone of unequal length, width, and depth, with sharp over-hanging margins" (p. 60.) Ulceration of Bone is sometimes a distinct and primary disease; and as such, attacks the head of the femur but capriciously. It only occurs in adults, and always in males, being often traceable to local injury and to rheumatism. The chief symptoms are, weakness and uneasiness, scarcely amounting to pain in the hip joint; its progress is exceedingly slow, but it eventually destroys part of the head of the femur.

The observation that reproduction of the compact substance of Bone removed by ulceration never occurs, is, we believe, due to Mr. Stanley, and was made by him many years ago. In cases where there appears to be reproduction, dense fibro-cellular tissue—not bone—is the new formation.

Necrosis. To this a considerable space is devoted, and it is well worthy of careful perusal. Necrosis usually attacks the compact tissue of bone, and the tibia is most frequently its seat. Next in frequency ranks the femur, and the lower jaw is often subject to it. One of the latest observations on the subject is, that the manufacture of lucifer matches is very apt to give rise to Necrosis of the jaw-bones, probably from the phosphorous acid vapour given off. The precise *modus operandi* is not yet positively known, although the probable explanation is, that the fumes of the acid give rise to inflammation of the periosteum of the jaw, the general health being at the same time greatly depraved. The phenomena of exfoliation have been greatly elucidated within the last few years by the labours of Professor Goodsir, Mr. Bransby Cooper, and Mr. Gulliver,—although it is but justice to John Hunter to state, that the accuracy of his views has been strikingly confirmed by the light thrown on the subject by these able microscopists and observers. The Haversian canals which immediately bound the dead, or dying bone, are enlarged contemporaneously with the filling of their cavities with a cellular growth. As this proceeds, contiguous canals are thrown into one another; and at last the dead, or dying bone is connected to the living by the cellular mass alone. It is now loose, and has become so in consequence of the cellular layer which surrounds it, presenting a free surface and throwing off pus. Mr. B. Cooper has ascertained, that a large quantity of the solid constituents of bone are contained in the disease arising from diseased bone. We must pass over the mode by which the old bone is removed, and that by which its loss is repaired, and proceed to the treatment of Necrosis. As a general rule, soothing applications are the best: but it occasionally happens that a moderate stimulant is required, and when such is the case, Mr. Stanley recommends mercurial ointment mixed with soap cerate. The old practice of soaking necrosed bone with dilute mineral acids, to hasten its removal, is not approved; but, in some cases of superficial Necrosis, the application of potassa fusa or nitric acid, is admissable. In cases where the Necrosis is clearly superficial, and where the exfoliation is at a stand still, the removal of the dead bone by operation is expedient, and also in internal and deeply seated Necrosis, when the dead bone is ascertained to be loose.

When the shaft of a bone is necrosed and separated, its removal is advisable;—but in such operations, as little as possible of the walls of the new bone must be injured, as there will be no reproduction of it. The treatment of Necrosis of the Bone of a finger or toe, was, in former times, to amputate it; but modern experience has shown that all that is necessary, is to divide the

soft parts covering the dead bone sufficiently to permit its extraction. The finger will be shortened, but still its form will be retained, and it will be a useful member. There are well-marked and instructive cases introduced to illustrate the various positions laid down, in this, a very important section of the volume.

Tumours of Bone. Cartilaginous Tumour occurs in the early and middle periods of life, and presents two distinct forms, one peculiar to the outside of a Bone, the other to its interior. The latter form occurs in the smaller bones, the former attacks the larger. The substance composing these tumours is of a blueish or greyish white colour, and chemical analysis obtains from it the same results as from pure cartilage; such tumours are of slow growth, and strictly local. In the early stage, preparations of iodine and mercury may effect their gradual dispersion. Every other variety of tumour, to which the osseous tissue is subject, is passed in review; and the subject is concluded with a summary of facts, which cannot fail to be of service in assisting the diagnosis of these, often obscure, cases. Whilst on the subject of Pulsating Tumours of Bone, Mr. Stanley brings evidence to show that such tumours may be arrested in their progress by the ligature of the main artery of the limb; and that moreover, in two known instances, the ligature of the artery was followed by reparative processes in the bone, effecting the restoration of its natural size and firmness.

Scrofula in Bone. It appears to Mr. Stanley, that the bones are primarily affected in only a proportion of the Scrofulous Diseases of Joints, for in cases which he has carefully watched, and which exhibited the local and constitutional characters of Scrofula in a marked degree, inflammation was found in the synovial membrane, with tuberculous deposit in and about the joint, whilst in the bone no unsoundness existed. When, however, destruction of bone has taken place from Scrofula, no reproduction ever takes place.

Morbid Growths from the Lower Jaw. Eight varieties are described, which are accurately detailed. The following remark is not to be lightly regarded in these days of chloroformization.

"One consideration, it has appeared to me, belongs to all operations performed for the removal of either a portion or the whole of the Superior Maxillary Bone; namely, that they are cases in which a serious objection lies against the use of either chloroform or ether; for, inasmuch as by the influence of these agents in annihilating sensibility, the irritability of the glottis is weakened, if not wholly lost, there must be danger of a trickling of blood from the mouth into the glottis, without the excitement of a cough to expel it from the windpipe." (p. 288.) This objection does not apply so forcibly to operations upon the lower jaw;—but to guard against the possibility of blood descending towards the larynx, the patient, during the operation, should sit upright, without reclining in the least.

In taking leave of this volume, we must express our opinion, that it possesses the merit of being essentially practical, lucid, and well arranged. The materials, selected with judgment, indicate extensive observation and careful reflection; and the book is altogether of so useful a character, that no professional library will be complete without it.

Sketches of the Medical Topography and Native Diseases of the Gulf of Guinea, Western Africa. By William F. Daniell, M.D., Assistant-Surgeon to the Forces, etc. pp. 200. London: 1849.

A lengthened residence on the Western Coast of Africa has given Dr. Daniell many opportunities of observation; and in the present volume we have the fruits of his research and inquiries presented in the form of a highly interesting and instructive treatise, on the general and medical topography, the natural history, diseases, and customs of the inhabitants of the coasts of

the Bights of Benin and Biafra, and the islands of Fernando Po, Prince's, St. Thomas, and Anno Bona. The regions which he describes have an unenviable notoriety for insalubrity: yet the following paragraph well explains much of the fatality among Europeans visiting these parts. "Could those causes of disease which have been hitherto ascribed to climatorial alternations be more thoroughly investigated, I apprehend we should discover that no small number were founded on very inconclusive data. It is a well-known fact, that the notorious insalubrity of Africa has frequently served as the scape-goat on which the blame of those evil consequences (resulting from the reprehensible indulgence of dissipated courses) might be unreservedly thrown, without the risk of their being disputed or even questioned. When we seriously reflect on the impaired constitutions of two-thirds of the human beings who frequent these colonies, recklessly indifferent as to the price of human life, we require no further argument for the rational explanation of those abnormal states of the system that so largely swell the amount of victims, in the occasional and almost inexplicable pestilences which prevail in these regions." (p. 13.)

We hope that Dr. Daniell will one day favour his professional brethren with a good practical treatise on the Diseases of Western Africa. He is eminently qualified for the task; and will thereby confer a great benefit. In the meantime, we heartily recommend his "Sketches of the Medical Topography of the Gulf of Guinea", as a work combining interesting topographical information, with knowledge likely to be of service to all engaged in the treatment of disease in those regions.

The Physiology of Digestion, considered with relation to the Principles of Dietetics. By Andrew Combe, M.D. Ninth Edition. Edited, and adapted to the present state of Physiological and Chemical Science, by James Coxe, M.D. pp. 191. Edinburgh: 1849.

Of the manner in which Dr. Combe has performed his task, of popularly explaining the Physiology of Digestion, and applying it to the Principles of Dietetics, and, consequently, to the preservation of health, there can be but one opinion. Whether we consider the book before us as a scientific treatise, or as a popular physiological work, it stands unrivalled for completeness of information, correctness of deduction, and clearness of diction. The labours of the most eminent contributors to our knowledge, in the various subdivisions of the subject, and the practical deductions, are expressed in a correct, simple, and convincing manner. The author and the editor show a praiseworthy caution in drawing deductions from meagre or uncertain data.

Dr. Coxe has ably discharged the trust bequeathed to him by Dr. Combe, of revising his work, and incorporating with it what was useful in recent researches. The latest discoveries and observations are skilfully embodied and applied. We can detect no omissions. Among the additions, we observe the observations of M. Bernard on the use of the pancreatic juice, and some observations on cod-liver oil, which are principally founded on the essay of Dr. C. J. B. Williams, published in this Journal for January 1849.

Microscopic Examination of the Water supplied to the Inhabitants of London and the Suburban Districts; illustrated by Coloured Plates, exhibiting the living Animal and Vegetable Productions in the Thames and other Waters, as supplied by the several Companies; with an Examination, Microscopic and General, of their Sources of Supply, as well as of the Henley-on-Thames and Watford Plans, etc. By Arthur Hill Hassall, M.B, F.L.S., etc. 8vo. Pp. 66. London: 1850.

The work is so fully described in the title-page now transcribed, that it is not necessary for us to do more than commend it, as one well deserving of perusal. The horrible nature of the compound fluid, which the Londoners drink under the name of water, is well set forth.

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

PRACTICE OF MEDICINE AND PATHOLOGY.

REPORT OF THE CATHERINE HOSPITAL AT STUTTGART, ON THE DISEASES OF CHILDREN.

The following valuable Report on the Diseases of Children, is extracted from the General Report of the Lying-in Department of the the Catherine Hospital at Stuttgart, from 1st July 1847, to 30th June 1848. It was communicated by Dr. Elsaesser, superintendent of the department.

There were born, in the above period, 290 children (157 males and 133 females); of these, 48 (25 m. and 23 f.) were premature, and 11 (7 m. and 4f.) still-born. The deaths were 37 (23 m. and 14 f.). The proportion of the still-born to the total births, was 1:26·36; of the still-born to those born alive, 1:25·36; of the deaths to the live births, 1:7·54.

Icterus Neonatorum was observed in 93 males, and 69 females.

Aphthæ were found in 34 males, and 23 females.

Inflammations of the Eye were observed, sometimes alone, sometimes complicated with other affections, in 35 newly-born children, 21 males and 14 females. The termination was generally favourable: in a few cases only, ulcers formed in the cornea, leaving more or less opacity. In one case, violent inflammation of the left eye occurred on the eleventh day after birth, and was treated by leeches, calomel, etc. The disease, however, made progress, and on the tenth day, produced ulceration of the cornea, which was followed, in seven days, by prolapsus of the iris.

A fatal case of atrophy with syphilitic corneitis, occurred in the prematurely born child of a syphilitic woman, who had numerous condylomata. On the fourth day, violent inflammation of the eye took place, with profuse suppuration; leeches had no effect in moderating the inflammation, but it continued to increase, and an abscess formed on the cornea. A collyrium of nitrate of silver, with laudanum, in distilled water, was ordered: the atrophy was treated with a mixture containing disulphate of quinine; and aromatic baths and arrow-root were prescribed. The abscess in the cornea burst in two points, the child gradually wasted, and death took place on the tenth day after birth. On *post-mortem* examination, a notable quantity of serum was found in the fourth cerebral ventricle: the lungs and the other principal viscera were healthy.[1]

Debility (*Lebensschwäche*). Thirteen maturely born children died of this—seven males and six females. The children refused the breast; they rejected with pain, whatever was administered to them; but slept well. Vomiting, convulsions, and coldness of the extremities supervened; and finally, death. The autopsies generally revealed anæmia, rarely hyperæmia of the brain, with œdema and effusion into the ventricles. One of these children had petechiæ on the eighteenth day, and the muscles of the gluteal regions and feet felt of a stony hardness. On *post-mortem* examination, ecchymoses were found beneath the capsules of the kidneys, and miliary granulations on the surface of the spleen.

Pleuro-pneumonia. This proved fatal to two children; to a premature male child, on the fourth day after birth, and to a mature twin male, on the second day. The first manifested only slight signs of life; on the day after

[1] The Editor of the *Journal für Kinderkrankheiten* suggests that, in this case, Dr. Elsässer should have employed small doses of calomel and iodide of potassium, in conjunction with the tonic and nutritive remedies.

birth it was jaundiced and soporose, but still it swallowed, and took the breast. There was an absence of any individual symptoms, especially of those which should denote a severe affection of the lungs. On *post-mortem* examination, the brain and its membranes were found much hyperæmiated, and the substance of the brain was of a yellow colour. The right lung was healthy; the lower lobe of the left was mostly in a state of atelectasis; it could be inflated. The upper lobe, with the exception of the apex, was perfectly hepatized; the tissue here was very soft, and, on making a section, a large quantity of reddish fluid escaped: this part of the lung was incapable of being inflated. On the upper surface of this lobe there was a layer of recent, yellowish-grey plastic exudation, which could be easily removed. The costal pleura on the left side was strongly injected, of a dark red colour. The foramen ovale contained a plug of coagulated fibrin. The second case was that of a strong, well-developed twin-child, weighing 7lbs, which was born apparently dead, but soon revived and cried lustily. On the first day, it took the breast frequently and eagerly. On the second, it was drowsy, sucked no more, and did not even swallow milk squeezed into its mouth; the whole body was of a greyish-yellow colour. The abdomen was full and constipated. In the evening, the head felt hot; two leeches were therefore applied, which diminished the heat, but did not remove the drowsiness. On the morning of the third day, strong collapse was observed; the body became cold, and the child remained in a state of stupor until death. During life, the child had neither cough nor dyspnœa, nor any symptoms of general febrile disturbance; it only appeared somewhat thirsty at times. The autopsy revealed hyperæmia of the brain and of its membranes, with yellowness of the substance of the former. In the right pleural cavity there were two or three tablespoonfuls of reddish-brown flocculent exudation, coagulable by heat. The lung on this side was hard and compact; the greatest part of the upper lobe, a small part of the middle, and nearly the whole of the lower lobe were hepatized, granular on section, brittle, readily sinking in water, and not capable of being inflated. The surface of the lung was covered with a thin, reddish yellow exudation: the costal pleura was much injected, and likewise covered with a thin layer of plastic exudation.

This case affords some peculiar points of interest. 1. Pneumonia is not uncommon in newly-born children. Clermont-Lombard *(Archives Générales de Médecine)*, makes this remark; and further observes, that pneumonia, or its sequelæ, are the cause of death in more than one-sixth of the children who die in the first week after birth. Vernois found hepatization of the lungs 113 times in 114 cases. On the other hand, pleuritis—at least the simple form, is rare. In the case before us, however, the pneumonia was accompanied with pleurisy. 2. It is remarkable, also, that cough (which is generally absent in the pneumonia of newly-born children), disturbance of respiration, and febrile reaction (except some thirst), in short, all symptoms of pulmonary congestion, were at least unobserved; while all the symptoms of congestion were referred to the brain. Moreover, the dyspnœa and accelerated respiration should stand in direct relation to the extent of hepatization; and here there was indubitable lobar pneumonia, and hepatization, without any disturbance of respiration. Valleix observes, that in complicated cases of pneumonia in newly-born children, there is scarcely any increased heat of skin; and relates a case of simple pneumonia, in which the heat of the surface was not raised during the whole course of the disease. Kluge, of Berlin, remarks, in his essay on the Pneumonia of Newly-born Children *(Medizin. Zeitung*, 1835, *No.* 34), that newly-born children lose their warmth and the red colour of their skin, become cold and bleached, and assume an ashy lead colour in pneumonia, even before there are any symptoms of impeded respiration. Perhaps the reaction in the pneumonia of children is imperfect, so that not even the presence of congestion, much less of inflammation, can be detected. Billard observes, that fever is absent in the parenchymatous inflammations

of newly-born children. Leger says, that pneumonia is almost always latent in children; and Valleix asserts that he found, in fourteen cases of pneumonia in newly-born children, one which was truly latent. Or, which seems more probable, the symptoms of reaction are often feebly developed through the frequently rapid progress of the disease, and the tender constitution of the patients, and thus quickly pass into collapse; or they are masked by complications, as by the cerebral affection in the present case. Hence many cases in newly-born children cannot be detected. 3. In the case under consideration, the left half of the thorax was larger than the right; aud also, at least, within the last twenty-four hours, the complexion was of a greyish-yellow colour.

That pneumonia and pleurisy may even occur in the fœtus, is placed beyond a doubt by trustworthy observations. But, in the present case, it must be regarded as equally certain, that the inflammation commenced more than twenty-four hours after birth, and then ran a rapid course. Valleix has related cases, in which hepatization became perfectly developed in from twenty-four to thirty hours.

Peritonitis. Of this affection there died a male child, who, for two days after birth, was perfectly healthy, but was then seized with distension of the abdomen, tormina, and convulsions, refused the breast, and died on the third day, remarkably collapsed. On inspection of the body, the peritoneal cavity was found to contain about two tablespoonfuls of a yellowish serous plastic exudation, which was precipitated as a false membrane on the liver and spleen, but not on the intestines. The cerebral membranes were much injected.

Erysipelas. Two children were seized with erysipelas of the face; one of whom, a male, died. He was taken ill on the seventh day, with erysipelas of the left eyelid, became drowsy, and frothed at the mouth. The erysipelas extended over the whole of the left cheek; violent fever and strong coma set in, and death occurred on the third day. No abnormal symptoms were found on dissection.

Four children, of whom three died, had erysipelas in the vicinity of the genital organs. Of those who died, one was a mature female child, the second a mature male, and the third a premature male. The history of the first and third cases is not remarkable; an anæmic state of the brain was the only abnormal appearance found on dissection. The second child was seized, on the fourteenth day after birth, with erysipelas of the genital and gluteal regions, great thirst, frequent pulse, and constipation. It was ordered to have a mild laxative, with aqueous tincture of rhubarb. On the seventeenth day after birth, an ill-looking abscess had formed at the root of the penis; the scrotum was of a dark blue colour; the erysipelas extended from the knees upwards, on the abdomen and back, as far as the lower ribs. On the eighteenth day, the abdomen was extremely tense, with distended veins; the scrotum was gangrenous; the upper part of the thigh also of a dark red colour, very tense; and death occurred, during a fit of convulsions, on the evening of this day, the fourth of the illness. *Post-mortem* examination revealed nothing abnormal in the cranial or thoracic cavities. The peritonæum was thickened and opaque in its parietal portion, and covered with dark red stellated patches of injection; in the cavity, especially at the bottom of the pelvis, were were four tablespoonfuls of exudation, consisting of greenish briny serum and many yellow flocculi, which latter partly swam in the serum, and partly precipitated on the intestines. The liver was very large, about the size of that of a child five years old. The lining membrane of the right umbilical artery was somewhat discoloured, and contained a firm coagulum, but no pus.

Cerebral Apoplexy. Five children were seized with symptoms of congestive apoplexy, of whom three (mature males) died. One of these had been brought into the world by gentle traction with the forceps. Three hours after birth, it began to moan, and would not take the breast; the abdomen was distended,

though not painful on pressure, and there was much eructation ; convulsions soon came on, and death took place on the second day. The autopsy brought to view hyperæmia of the meninges and of the brain ; the latter exhibited, on section, much punctiform vascularity. In the right pleural cavity there were three loth (one and a half ounce) of clear serous fluid.

The two other fatal cases were seized, on the tenth and twelfth days after birth, with drowsiness, vomiting, heat of head, and convulsions. The latter and the drowsiness increased, the body became cold, and death followed on the second day from the attack. In both these cases, the brain and its membranes were found hyperæmiated, and in one there was also a clear fluid exudation in both pleural cavities and in the peritonæum.

A mature child was born in a state of lividity and sopor. In a short time, it had stertorous breathing, a small pulse, cold skin, dilated pupils, and died twenty-six hours after birth. On *post-mortem* examination, the meninges were found much injected ; and the lateral ventricles contained a large quantity of water. On the inferior surface of the left posterior lobe of the brain, between the membranes, there was a large coagulum of blood ; and a similar one, of larger size, on the inferior surface of the left lobe of the cerebellum. The treatment consisted in leeching the head, cold applications, hip-baths, stimulant enemata ; laxatives, small doses of calomel, oxide of zinc, etc.

Convulsions. This disease occurred singly, without any other, in eighteen children (ten males and eight females) ; only one case was fatal. A mature female child was perfectly healthy up to the eighth day after birth ; but on the eighth day it refused the breast, became pale, livid, soporose, and breathed with difficulty : the pulse was small, and there was vomiting and constipation. It was ordered to have laxatives, as well as small doses of calomel and oxide of zinc, with magnesia. No improvement resulted ; and it was only after the use of musk and ammoniated spirits of aniseed in small doses, with baths, that there seemed to be any amendment. On the sixth day, however, the child suddenly became, towards the evening, blue and cold, the pulse was scarcely perceptible, frothy mucus exuded from the nostrils at each expiration, and death occurred at eight P.M. On *post-mortem* examination, the brain was found hyperæmiated, and there was a large quantity of clear serum effused in the lateral ventricles and at the base of the brain. The lungs were congested and œdematous, and gave exit, on being cut into, to a quantity of sanguineous frothy fluid. The liver was very full of blood.

Atelectasis Pulmonum. This was observed in a high degree in four mature children (three males and one female). The first died on the third day, with symptoms of vital debility ; on the second day, there was commencing induration of the cellular tissue, and it was constantly in a state of stupor. The brain and its membranes were found hyperæmiated, and the lower lobe of the right lung in a state of atelectasis. The second child lived two days, and gave only very slight signs of life ; it died in convulsions. The brain was found in a state of anæmia ; and there was perfect atelectasis of the whole of the left lung, with œdema of the right. The third was brought into the world by the forceps ; it was apparently dead, but was immediately revived. It moaned ; mucus, stained with blood, flowed from the mouth ; the hands were blue and swollen ; and death occurred twelve hours after birth. On inspection, the brain was found highly œdematous, the lateral ventricles filled with serum, the left lung in a perfect state of atelectasis, and œdematous ; the right contained air, but was œdematous. This case is very similar to the fourth, which occurred in a male child, who was born after an easy labour, but died after six hours. Just after birth, he cried aloud once, but afterwards moaned until death. Respiration was irregular ; there was constant sopor ; the face was livid, and the body cold. On *post-mortem* examination, the brain and its membranes were found much injected. The substance of the brain exhibited much watery infiltration ; the lateral ventricles were filled with serum. The lungs were compact, with sharp edges, and were

in a state of atelectasis. Only a portion of the upper lobes contained air. The pleural cavities contained some serum. There was a moderate quantity of dark blood in the cavities of the heart.

These two latter cases are instances of an important complication of imperfect expansion of the lungs, with acute hydrocephalus and serous infiltration, in a high degree, of the cerebral substance. It is very probable, that the first morbid change was the production of congestion of the brain, soon amounting to congestive apoplexy, and, as a consequence, pressure on this organ. In this manner, the sensory function being impeded, the susceptibility of the lungs to the stimulus of the atmospheric air was destroyed; but especially the infantile organism was so weakened, that a perfect expansion of the chest, and, consequently, complete respiration, was impossible.

Œdema of the Lungs. A male child was born at the full term, but after a tedious labour; it was apparently dead, but immediately revived. It appeared blue all over, and moaned in an extraordinary manner. Some blood was allowed to flow from the umbilical chord, sinapisms were applied to the calves of the legs, and enemata of camomile, with oil, were administered. The child, however, soon died. On *post-mortem* examination, there was found to be moderate hyperæmia of the brain, and some serum in the ventricles. In both pleural cavities there was some bloody serum. The upper lobe of the left, and the upper and middle lobes of the right lung, were œdematous, but still floated in water. The lower lobe of the left lung contained no air; the tissue was weak, soft, and in an extreme state of watery infiltration. The lower lobe of the right lung presented an analogous appearance, but in a less degree. There was nothing abnormal about the heart.

Tuberculosis of the Brain. A very weakly female child refused the breast on the second day after birth, and became soporose. Both eyes were slightly inflamed. A mixture containing musk, with a few drops of *liquor cornu cervi succinatus*, was prescribed; hip-baths and sinapisms were also ordered. The drowsiness and weakness still increasing, half a drachm of Malaga wine was ordered to be added to each dose of the medicine. On the eleventh day, vomiting and diarrhœa set in; and the child died, extremely emaciated, on the twelfth day. At the autopsy, after both hemispheres of the brain were removed, the *centrum ovale* of Vieussens was found to contain small punctiform tubercles, of the size of millet-seed, or linseed; and one of the size of a pea, in a state of purulent softening. In the left optic thalamus there were many small miliary granulations, as large as pins'heads. Around these deposits, there was much small punctiform vascularity; the choroid plexuses were much injected. In the cerebellum, there was a rather large apoplectic clot. The ventricles contained some serum; on the posterior lobe of the cerebellum, between the membranes, there was a patch of yellowish exudation. Many of the mesenteric glands were found enlarged.

Tetanus. A mature male child was seized, on the sixth day after birth, with inflammation of the umbilicus: the chord had become separated on the preceding day. The inflammation soon proceeded to suppuration, and the child became strongly jaundiced, and very restless. On the night between the eighth and ninth days, the child cried frequently and loudly, but towards morning this cry subsided into a peculiar moan; and, at the same time, clonic convulsions occurred in the muscles of the face and jaw. The muscles of the eyes, neck, and arms were slightly convulsed; the feet were stiff. The paroxysms occurred, after the tenth day, every four or six minutes, and lasted half a minute each time. The application of leeches to the back part of the head, and the administration of small doses of tincture of opium, rendered the paroxysms less frequent; but they still returned every quarter of an hour, the pulse became weaker, the countenance livid, the pupils much dilated, and death imperceptibly supervened. On *post-mortem* examination, a large quantity of clear fluid was found beneath the dura mater of the spinal chord, especially in the lumbar region. The arachnoid membrane of the chord was through-

out of a yellowish-grey colour, with single hyperæmic spots. Between it and the pia mater in the lumbar legion, there was a considerable amount of yellowish exudation ; the pia mater was much injected. The substance of the spinal chord, and of the brain, was very firm. On the surface of the brain, as well as in the lateral ventricles, there was an effusion of yellowish watery fluid ; the brain and its membranes contained much blood. No abnormal appearance was observed in the pleural or peritoneal cavities, or in the umbilical vessels.

Softening of the Brain. A well-developed male child gave only slight signs of life after it was born : it was in a constant state of torpor, and had a blue, livid countenance. On the second day, it was seized with violent epistaxis, and died. The membranes and substance of the brain were much injected ; there was a little fluid in the ventricles ; the brain itself was in a state of watery infiltration ; the substance of the cerebellum was soft, like jelly, and formed a reddish grey mass (local softening). The posterior lobes of the cerebrum were in the same condition, but in a less degree ; the heart was full of blood. This red softening must evidently be considered as the consequence of apoplexy, with effusion of blood in the cerebellum, as a mingling of blood with broken-up cerebral matter. A flow of blood from the Schneiderian membrane, in the form of epistaxis, produced death suddenly. The *post-mortem* appearances in this case explain clearly the low vitality perceived in the child though born at the full term, and properly developed. This form of softening of the brain (not dependent on inflammation) is, according to Billard, peculiar to new-born children, and a secondary result of congestion of the brain.

There were also noticed two cases of Cholera, two of Hydrocele, two of Swelling of the Mammary Glands in male children, and two remarkable cases of Coryza. On this Coryza, which is peculiar to children, Dr. Elsässer remarks :—" In children at the breast, especially when newly-born, inflammation of the Schneiderian membrane manifests some peculiar symptoms, which depend on obstruction of the nostrils, especially at the upper orifices. A child, who has a severe attack of this disorder, does not breathe through the nose : it cannot suck and inspire air at the same time, so that it lets go the nipple as soon as it seizes it, and utters a pitiful cry. The same thing happens if it attempt to suck a finger introduced into the mouth ; but fluids poured in readily pass down. Before it leaves the breast (and sometimes even independently of the act of sucking, especially at night), it shews all the symptoms of increasing dyspnœa, the countenance becomes blue, and the child is in a state of suffocation ; and all the symptoms are renewed so often as it tries to suck. Temporary weaning during the height of the disease, and the use of cow's milk, diluted with anise tea, alleviate this condition, which will be removed by the internal use, several times a day, of small doses of calomel, with magnesia and sugar."

Malformations. Of these are to be noticed :—

1. Umbilical Hernia. This case occurred in a prematurely born male child, weighing three pounds, which died a few minutes after birth. The sternum was absent, so that the chest presented a depression in the middle line in front. The lungs were small, undeveloped, and contained a little air—the child having made a few feeble inspirations. The heart and diaphragm were normally developed ; the peritoneal cavity was collapsed, and felt empty. At the umbilicus there was a hernia in the integuments of the chord, which were yellow and transparent. The sac of the hernia was about the size of an orange : it contained the liver, stomach, and the whole intestinal canal. At the limits of the swelling, and interiorly to the umbilicus, the spleen was found ; it was remarkably large, much elongated, as was also the pancreas. The spleen and liver were very soft ; the gall-bladder and the cystic duct were absent ; the hepatic duct opened immediately into the duodenum ; the venous canal was obliterated ; the stomach was like an intestine in form.

The insertion of the diaphragm was deep below the inferior ribs, so that the thoracic cavity was much elongated, and the abdominal compressed. The intestines seemed to have a blind termination, at some distance in the abdomen from the anus. The kidneys were situated very high up; the femur and humerus were short, thick, and knotty; there was a varus in the left foot. On examining the head, the parietal and occipital bones were found covered with firm coagula, beneath the pericranium; the fontanelles were very large; the substance of the brain was normal. At the bottom of each orbit there was much firm cellular tissue, and a sac with amorphous contents, representing an eye. The eyelids were closed.

2. Varus. One case of this was observed, in a female child, who was otherwise well formed. [*Medizinischer Correspondenzblatt*, Stuttgart, Bd. xix, No. 15; and *Journal für Kinderkrankheiten*, Jan. and Feb. 1850.]

SULPHUR IN CHOLERA.

Dr. Lorie, of Pont-le-Voy, speaks favourably of the medicinal use of Sulphur in the *Journal des Con. Médico-Chir.* (October 1849); and in the same journal for the 1st of January, 1850, there is a paper by Dr. Cabaret, entitled "*Du Soufre sublimé dans le Période algide du Cholera.*" Notices on the same subject are given in our volume for 1849, pp. 345, 673, and 1116.

TRANSIENT ALBUMINURIA.

We find the following report of a discussion at the *Societé de Biologie* in the *Gazette Médicale* for February 10, 1849:—"M. Bouchat detailed a case of Transient Albuminuria, dependent on passive sanguineous congestion. The patient laboured under an organic disease of the heart, and had general anasarca, accompanied by a red and congested condition of the surface. In these circumstances, albumen appeared in the urine. Bleeding to nearly ten ounces, removed the symptoms of general hyperæmia; and the urine forthwith ceased to be albuminous.

"M. Blot called the attention of the Society to the frequent production, during labour, of Transient Albuminuria, arising from the impeded circulation, and disappearing spontaneously. M. Gubler has several times observed the fact, already pointed out by M. Rayer, that obliteration of the renal veins can produce Albuminuria M. Lebert insists on the necessity of combining microscopical with chemical examination. It would thus be easy to determine, whether the albumen exists in the urine in an amorphous state, or is partly furnished by the corpuscles of blood or of pus."

We believe that to Dr. Robinson, of Newcastle, belongs the merit of having first pointed out the important fact, that ligature of the emulgent veins induces Albuminuria, as a consequence of congestion of the kidneys. This, and other analogous facts, are fully set forth in Dr. Cormack's paper on Puerperal Convulsions, contained in the June number of this Journal for 1849, as well as in other parts of our first volume.

It is now pretty generally known, that Albuminuria is not an absolute sign of organic renal disease; but that it rather is a sure indication of general hyperæmia, which may be the concomitant or precursor of an alteration in the structure of the kidney, or may merely be associated with a temporary congestion of that organ.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY,

Tuesday, February 12, 1850.

Dr. Addison, President, in the Chair.

Case of Stricture of the Œsophagus, fatal two years and three months after Accidentally Swallowing Soap-Lees. By W. R. Basham, M.D. A woman, aged 22, was admitted into the Westminster Hospital, July 16, 1847, suffering from the ordinary symptoms of poisoning by a corrosive irritant. Five days previously she had drunk, by mistake, some of the soap-lees used in marble polishing, which consisted of a caustic solution of impure carbonate of soda. An œsophagus tube at this time passed readily into the stomach. Under a soothing plan of treatment, with blisters, and calomel with opium, she steadily improved, and was discharged, at her own request, ten days after admission. Eleven months afterwards, on June 8th, 1848, she was again admitted, emaciated and weak, and unable to swallow either solids or fluids. The œsophagus being examined with a small gum-elastic catheter (No. 8), a trifling obstruction was felt at a point corresponding to about an inch below the cricoid cartilage; and about an inch and a half or two inches lower down, another impediment was met with, which it required steady and prolonged pressure to overcome. The catheter was passed into the stomach daily, its size being gradually increased. After the first day of this treatment, the patient was able to swallow liquid food; but she could not obtain a passage for any solid portions of food. She increased in flesh and strength; and, on June 30th, was made an out-patient, but neglected to attend, and on July 18th was re-admitted, with aggravation of the symptoms. A blister was applied, and the catheter again passed with the same good effect as before. At the end of August she was made an out-patient, but remained as nurse in the hospital. In January, 1849, she left it. On the 10th of September, 1849, she was admitted for the fourth time. She was now more attenuated and exhausted: was quite unable to swallow even fluids, and the Stricture could not be passed. She died on the 19th September.

Autopsy. The body being examined, the upper third of the œsophagus was found much dilated, and its cords thickened. Between the first and second Stricture, the tube was contracted to about the diameter of a No. 8 catheter. The second Stricture would not admit a probe from above; it was only from below upwards that a passage could be obtained. The author suggested the propriety of commencing in such cases the use of the œsophageal bougie, as soon as the inflammatory condition of the parts has been subdued, though no positive symptoms of dysphagia yet present themselves, and of continuing its use daily for months, with the view of preventing the formation of Stricture.

Case of Stricture of the Eustachian Tube, and the Appearances presented on a Post-mortem Examination; with Remarks on the use of the Otoscope in the Diagnosis of Diseases of the Ear. By Joseph Toynbee, F.R.S. The Otoscope consists of an elastic tube eighteen inches long, and about half an inch in diameter, each extremity having attached to it a piece of ivory or ebony. One end of this tube being placed in the external meatus of the patient, the other is inserted in that of the surgeon, and by this means sounds emanating from the tympanic cavity of the patient can be distinctly heard by the medical man. The sound produced by the passage of air into the tympanic cavity, when the organ of hearing is healthy, consists of a series of very faint cracks, which are distinctly appreciable by the otoscope.

Tuesday, February 26, 1850.

Dr. Addison, President, in the Chair.

Proximate Cause of Albuminous Urine and Dropsy: Pathology of the Renal Blood-Vessels in Bright's Disease. By George Johnson, M.D., Assistant-Physician to King's College Hospital. The author, in accordance with Henle's description of the arterial tunics, had observed, that the renal arteries contain two layers of muscular fibres, the inner being longitudinal, and the outer circular. In all cases of chronic renal disease, with greater or less destruction of the secreting cells and tubes, the author had observed great hypertrophy of the arterial walls, the canal of the vessels remaining pervious, and of the normal size, until the extreme stage of the disease, when an accumulation of oil-globules frequently occurs within them. The Malpighian capillaries, in the same cases, are also much thickened, but present no appearance of muscular fibre. In the last stages, oil-globules are occasionally seen within or upon them. The intertubular capillaries and the veins, present no appearance of thickening. The author referred to the late Dr. John Reid's observations on the phenomena of asphyxia, and to Dr. Alison's on the capillary circulation, and its dependence on the vital attraction exerted upon the blood by the processes of nutrition and secretion. The escape of serum from the Malpighian capillaries, and its consequent mixture with the urine, and the serous effusion into the areolar tissue and the serous cavities, result from impeded capillary circulation, consequent on the retention of urinary excrementitious matters in the blood, the obstruction being analogous to that which Dr. Reid proved to exist during the process of asphyxia. The obstruction occurs in the intertubular capillaries of the kidney, and is the cause of the remarkable hypertrophy of the Malpighian capillaries, and of the arterial tunics. The obstruction in the systemic capillaries would account for the hypertrophy of the left ventricle of the heart, so frequently observed in cases of chronic renal dropsy, without manifest disease of the valves or of the vessels. The author then referred to some pathological phenomena, probably connected with impeded capillary circulation, and in this respect analogous to those before mentioned—e. g., serous effusion into the pulmonary cells in slow asphyxia; hypertrophy of the right ventricle of the heart in cases of chronic asthma; sudden death from the entrance of air into the veins; and the frequent connexion of cerebral hæmorrhage with renal disease.

Dr. Charles J. B. Williams said that, Dr. Johnson, in his former paper, had described Dr. Bright's disease of the kidney, as a state of fatty degeneration of that organ. The author's present views more nearly coincided with those expressed by him (Dr. W.) in the discussion on the former paper; when he had stated, not only that other kinds of deposits were often met with, but also that more influence ought to be attributed to the state of the blood-vessels. He could not agree with the author, that the congested state of the vessels was secondary to the derangement in the excreting cells of the kidney; he believed that the latter state was only the result of the altered action of the blood-vessels. He was warranted in this view by frequently observing albuminuria to result as a secondary affection, from disease of the right side of the heart, causing a general congestion of the venous system. He had the greatest respect for his friend, Professor Alison, but he could not admit the existence of his vital attraction and repulsion. In observing what occurred on applying any irritant to the web of the frog's foot, under the microscope, it was found that the minute arteries were first greatly contracted, and that the congestion occurred afterwards.

Dr. Snow, Mr. Le Gros Clark, Dr. Black, Mr. Paget, Mr. Bransby Cooper, Dr. Copland, and Dr. Daniell made some remarks having, more or ess, reference to Dr. Johnson's paper.

ANNIVERSARY MEETING, MARCH 1, 1850.

DR. ADDISON, PRESIDENT, IN THE CHAIR.

REPORT OF THE PRESIDENT AND COUNCIL. We have only room for an abstract of this document.

The total number of Fellows on March 1, 1849, was 578—at the present time it is 587—26 new Fellows having been elected into the Society, while the number of those who have ceased to be Fellows, whether from death or other cause, is 17. Of the 587 Fellows who now compose the Society, 30 are Honorary Fellows, 11 British, and 19 Foreign, and 557 are Ordinary Fellows —308 Resident, and 249 Non-Resident.

The Years.	1843-4.	1848-9.	1849-50.
Total Number of Fellows in August	501	578	578
Number of Fellows who have paid the Annual Subscription	235	284	292
	£ s. d.	£ s. d.	£ s. d.
Receipts from Annual Subscriptions, Admissions, and Composition Fees	973 : 7 : 0	1102 : 10 : 0	1108 : 16 : 0
Receipts from Sales of Transactions, etc., Fines and Interest of Funded Property	109 : 18 : 10	103 : 19 : 9	115 : 12 : 0
Total Income	1083 : 5 : 10	1206 : 9 : 9	1224 : 8 : 0
Total Expenditure, exclusive of the Purchase of Stock	954 : 14 : 1	1104 : 9 : 10	1075 : 7 : 6
Amount of Stock purchased	100 : 0 : 0	500 : 0 : 0	—
Amount of Stock in the Funds	1100 : 0 : 0	2700 : 0 : 0	2700 : 0 : 0

While the total income of the Society has increased, the actual expenditure has been less than in the preceding year. The diminution has taken place in Current Expenses, Incidental Expenses, and Expenses of the Volume of Transactions; while the sum expended in adding to the property of the Society, exclusive of money funded, has been much larger than in the preceding year.

ANALYSIS OF EXPENDITURE.

Current Expenses.	£ s. d.	£ s. d.
Rent	202 15 0	
Insurance of Library	13 10 0	
Sub-Librarian's Salary	140 0 0	
Petty Cash	64 0 3	
Page's Wages and Clothes	29 11 6	
Printing and Stationery	24 18 3	
Gas	3 2 3	
Coals	20 0 0	
Glazier	7 11 0	
Chandler	10 19 3	
Winding and Cleaning Clocks	1 11 6	
Carried forward		517 19 0

Current Expenses, brought forward				£517	19	0
Incidental Expenses.						
Printing New Bye-laws, Supplement to Catalogue, Carpenter, Ironmonger, etc.				37	17	5
Expenses of Volume XXXII				130	12	0
Additions to the Property of the Society.						
Books Purchased	354	12	4			
Binding of Books	23	2	9			
Sydenham, Cavendish, and Ray Societies	9	9	0			
Pedestal for the Bust of Dr. Elliotson ...	1	15	0			
				388	19	1
Total Expenditure... ...				£1,075	7	6

The Council have still held in view the object of rendering the library as perfect as possible, and the librarians, during the past year, have been actively engaged in carrying into effect the recommendations of the Library Committee appointed in 1847. In the last twelve months, 800 works (upwards of 1,000 volumes) have been purchased ; and, in the course of the last three years, more than 1,600 works have been added to the library, which now includes nearly 22,000 volumes. It will be observed that nearly two-fifths of the whole expenditure has been applied to the improvement of the library. A manuscript classed " Catalogue of the more Important Works in the Library", has been compiled and presented to the Society by Mr. Williams, the sub-librarian. This volume is highly creditable to the Society's sub-librarian.

New Bye-laws recommended by the Council, and confirmed by the Society. 1. " Every person elected a Fellow of the Society, and living within seven miles of the General Post-office, shall, previously to his admission, pay to the Society the sum of six guineas as an admission-fee, and shall also further contribute the sum of three guineas annually. But every Fellow may, after the payment of the admission-fee, compound for his annual contribution, by paying at once the sum of forty-five guineas ; every Fellow who has paid five annual contributions may compound for all future annual contributions by paying at once the sum of thirty-nine guineas ; every Fellow who has paid ten annual contributions may compound for all future annual contributions by paying at once the sum of thirty-three guineas ; every Fellow who has paid fifteen annual contributions may compound for all future annual contributions by paying at once the sum of twenty-seven guineas ; every Fellow who has paid twenty annual contributions may compound for all future annual contributions by paying at once the sum of twenty-one guineas ; every Fellow who has paid twenty-five annual contributions may compound for all future annual contributions by paying at once the sum of fifteen guineas ; and every Fellow who has paid thirty annual contributions may compound for all future annual contributions by paying at once the sum of five guineas.

2. " All sums of money, paid to the Society as composition-fees in lieu of annual contributions, shall be invested in the names of the trustees in such government, or other securities, as shall be approved of, and directed by the Council. The *principal* of these sums of money shall not be expended without the sanction of a general meeting of the Society, but the interest thereof shall be paid by the trustees to the treasurers for the purposes of the current expenditure of the Society."

Election of Office-bearers. Dr. Webster, in a luminous and unanswerable speech,[1] exposed the vicious effects of the present system, as manifested from year to year in the " House-lists", and objectionable proceedings of the Referees, as regarded the Transactions. A great muster having been

[1] Fully reported at p. 310 of the *Lancet* for 9th March.

anticipated of reformers, and a rumour being afloat that they were tolerably organized, and might try to change certain names in the House-list, the attendance of all parties was very large ; and, strange to say, the nominees of the Council were with difficulty carried ! It is painful and invidious to attack bad laws through individuals, and we hope that ere another 1st of March, the abolition of the House-list will avert such another trial of strength —one so dangerous, not only to the peace, but to the existence of the Society.

In analyzing the division, it must be recollected, that the twenty-one members of the late Council, the ten new members, the twenty-three members of Committee of Referees, all used their influence against the reformers. Take away these fifty-four (one of the referees is also a councillor), and where is the majority ! Seventy-five Fellows recorded their votes against a self-elected executive.

The List of Office Bearers. *President:* Thomas Addison, M.D. *Vice-Presidents:* George Burrows, M.D., F.R.S.; John Thomson, M.D.; Henry Alexander, F.R.S.; Samuel Solly, F.R.S. *Treasurers:* Robert Bentley Todd, M.D., F.R.S.; Benjamin Phillips, F.R.S. *Secretaries:* Seth Thompson, M.D.; Charles Hawkins. *Librarians:* John Hennen, M.D.; James Dixon. *Members of Council:* George Cursham, M.D.; George Gregory, M.D.; William Macintyre, M.D.; Alexander John Sutherland, M.D., F.R.S.; Charles J. B. Williams, M.D., F.R.S.; James Clayton ; Thomas B. Curling ; William Fergusson, F.R.S.; Henry Charles Johnson ; Samuel A. Lane.

MISCELLANEOUS INTELLIGENCE.

Statistics of the Parisian Hospitals for the Insane. 1. *Charenton.* On January 1st, 1849, there were 445 inmates—228 males and 217 females. During the year, there were 171 admissions—107 males and 64 females ; discharged cured, 24 males and 20 females ; escaped, 2 males and 1 female ; discharged at the request of friends, or transferred to another establishment, 35 males and 28 females ; died, 45 males and 16 females. On January 1st, 1850, the population was 445—231 males and 214 females.

2. *Salpêtrière.* On January 1st, 1849, there were 1471 insane patients in this institution. During the year, there were 694 admissions ; 219 were discharged cured ; 72 were improved ; 11 escaped ; 33 were dismissed at the request of friends, or transferred to other establishments. The severity of cholera in the institution raised the cypher of mortality to 599. On January 1st, 1850, the population was 1231.

3. *Bicêtre.* On 1st January, 1849, the number of inmates was 796 ; admissions during the year, 657 ; total 1453. There were dismissed cured, 211 ; ameliorated, 27 ; escaped, 21 ; transferred to asylums in the departments, 16 ; at the request of their family, or sent to their native country, 73 ; deaths 289 ;—leaving, on the 1st January 1850, a population of 816.

The number of admissions into the Salpêtrière and Bicêtre in 1849 (1350) is rather less than that for 1848 (1354). The numbers for 1847 and 1846 are 1230 and 1331. These statistical results afford a sufficient reply to the assertion, that the late political disturbances have increased the number of the insane. [*Annales Médico-Psychologiques,* January 1850.]

The Metropolitan Police. According to the Parliamentary Report just published, the medical expenses incurred on behalf of the Metropolitan Police, amounted, during the past year, to 2376*l.* 6s. 7d. The salary of the Superintending-Surgeon, Mr. Fisher, is 600*l.*, and there are sixty-two district-surgeons, at salaries varying from 4*l.* to 72*l.* per annum, making a total of 1860*l.* 7s. 6d. Medical attendance, medicines, etc., for destitute prisoners, and for poor persons in cases of accidents, etc., in the public thoroughfares, cost 519*l.* 15s. 1d.

Royal College of Surgeons. Two Jacksonian Prizes have been awarded by the College. Henry Lee, Esq., of Dover-street, Piccadilly, has

obtained one, for a work on the Causes, Consequences, and Treatment of Purulent Deposits; the other has been adjudged to Peter Hincks Bird, Esq., of Birmingham, for an essay on the Nature and Treatment of Erysipelas.

Rumoured Union of the Royal Medical and Chirurgical, with the Pathological Society. We understand that some of the best and most active friends of both institutions are anxious to bring about a junction. It is proposed, that the united societies meet weekly, and that each alternate meeting be entirely devoted to Pathology and Pathological Anatomy.

Testimonial to Thomas S. Fletcher, Esq., Broomsgrove. On Saturday, 9th March, a silver tea-service was presented to Thomas Fletcher, Esq., in testimony of his assiduous exertions during the prevalence of the cholera, in the summer of 1849. The coffee-pot and tea-pot bore the following inscription:—"Presented to T. S. Fletcher, Esq., surgeon, by the inhabitants of Stoke Prior and a few other friends, to mark their sense of his unwearied exertions, professional skill, and great kindness to the poor, during the prevalence of the cholera in the summer of 1849."

APPOINTMENT.

Goodfellow, Dr. S. J., appointed Lecturer on Medical Jurisprudence in the Middlesex Hospital School of Medicine, in the room of Dr. R. G. Latham, resigned.

OBITUARY.

Anderson, Thomas, Esq., Surgeon, at Selkirk, aged 63, on 7th April.
Bellingham, Dr. W. H., at Pisa, on 31st March.
Burrow, T. D., Esq., Surgeon, at Settle, Yorkshire, aged 53, on 14th March.
Capuron, M., the distinguished medical jurist, of Paris, last week.
Garrie, James, Esq., Surgeon, at Morningside, Edinburgh, on 9th April.
Harrington, Henry, M.D., son of the late J. H. Harrington, Esq., Member of the Council, Bengal, 10th April, at Pisa.
Holt, H. T., Esq., Surgeon-accoucheur, at Great College Street, Westminster, aged 66, on 26th March.
Lauden, Dr. W. P., at Sloane Street, Chelsea, on 1st April.
Macdonnell, Dr. G. B., H.E.I.C.S., on board the *Indus* steamer, off Malta, on 9th April.
Neville, Edward, Esq., House-Surgeon to the Westminster Hospital, aged 22, on the 20th March.
Payne, ——, Esq., Surgeon, of Plymouth, drowned in the wreck of the *Royal Adelaide* steamer, off Margate, on the 30th March.
Potts, Dr. L. H., aged 60, on 23rd March.
Prout, William, M.D., F.R.S., in Sackville Street, aged 64, on 9th April. The deceased was well celebrated for his valuable contributions to medical science.
Roberts, William, Esq., Surgeon R.N., on the coast of Africa, on 6th Dec., 1849.
Rogerson, ——, Esq., Surgeon and Coroner of the borough of Wigan, of diseased heart and apoplexy, lately.

BOOKS RECEIVED.

Balfour, Statistics of Cholera. Madras: 1849. Combe (Dr. A.) on the Physiology of Digestion. Ninth Edition. By James Coxe, M.D. Edinburgh: 1849. Cox on Cholera. London and Bridgend: 1850. Forbes' Physician's Holiday. Second Edition. London: 1850. Hassall, Microscopic Examination of Water supplied to London. London; 1850. Nelson on the Principles of Health and Disease. London: 1850. Proceedings of Edinburgh Obstetric Society for 1848-49. Edinburgh: 1850. Redfern, Abnormal Nutrition of Articular Cartilages. Edinburgh: 1850. Report (second) of Somerset County Asylum. Wells: 1850. Thomson (Spencer, M.D.) on Temperance and Total Abstinence. London: 1850. Tilt on Diseases of Menstruation. London: 1850. Wright (Samuel), Pathological Researches on Death from Suffocation, etc. London: 1850.

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ORIGINAL COMMUNICATIONS.

CASES OF SUCCESSFUL OPERATION FOR STRANGULATED HERNIA IN OLD PEOPLE; WITH REMARKS.

By T. B. CURLING, Esq., Surgeon to the London Hospital, etc.

CASE I. STRANGULATED SCROTAL HERNIA—DIVISION OF THE STRICTURE EXTERNAL TO THE SAC—RECOVERY. Abraham Joshua, aged 81, a stout man, of the Jewish persuasion, who had always enjoyed good health, was admitted into the London Hospital on the 9th of February, 1849, at 8 A.M., on account of an irreducible Oblique Inguinal Hernia. He had been subject to rupture for some years; and, until lately, had worn a truss. The swelling had appeared a few hours previously, but he had been unable to reduce it as usual. His bowels had been relieved the day before. There was a large tumour occupying the left side of the scrotum; it was tense, and received no impulse on coughing. The taxis was applied by the dresser whilst the patient was in bed, and afterwards in a warm bath, without effect. A dose of castor oil was given at noon; and subsequently a bladder of ice was applied to the tumour. In the evening, the old man became sick, and complained of pain in the tumour; and about 9 P.M., in consequence of the increasing urgency of the symptoms, I was sent for. Having failed in my attempts to reduce the Hernia, I determined to operate without further delay. An oblique incision, about three inches in length, commencing an inch and a half above the external abdominal ring, was carried downwards over the neck of the sac. The tense margin of the outer ring, girting the neck of the sac, was divided; and, as this gave but partial and insufficient relief, some bands of fascia were cut through, and the protruded parts were then readily returned, without the hernial sac having been opened. The operation was borne extremely well; and the patient felt so comfortable after removal to a warm bed, that no medicine of any kind was given him. The bowels acted next morning. He was then ordered to take a draught of camphor mixture, with m. xx of aromatic spirits of ammonia, three times a day. He was put upon a nutritious diet, and allowed eight ounces of wine. On the second day after the

operation, the patient being restless in bed, the rupture returned. It was reduced without difficulty by Mr. Holman, the House-Surgeon. This accident did not interfere with the healing of the wound, which united partly by the first intention, and soon entirely closed. A truss was ordered; and he was discharged on the 24th February, the fifteenth day after the operation.

Case II. Strangulated Large Umbilical Hernia—Operation—Sloughing of the Hernial Sac and Integuments—Recovery. Ann Hanson, a large fat woman, æt. 79, married, was admitted on the evening of Sunday, February 18th, 1849. She had been subject to a Rupture at the Umbilicus for thirty-four years, but had worn a truss for it only during the last four. The tumour, however, had been but partly reducible. She had lived very temperately, had enjoyed excellent health, and through a long life had never been confined to her bed except at the birth of her children. The rupture had caused but little inconvenience until the Thursday preceding, when it increased in size, and became rather painful. This did not, however, prevent her getting about on Friday, although she suffered pain in the back and loins. The bowels acted on Thursday, and slightly on Friday morning. On Saturday, the pain in the tumour increased, and nausea came on. She sent for a surgeon, who attempted to reduce the swelling by the taxis, without success, and afterwards applied a bladder of ice, with no better result. He advised her being carried to the hospital; but she refused to go. In the evening she became sick and had hiccough; she continued in this state during the night. She was worse next day; and was at length persuaded to go to the hospital, where she arrived at half-past 6 P.M. On examination, a tumour of the size of a large orange, and of an oval form, was found at the umbilicus, hanging downwards. The integuments were of a dark colour. The swelling was very painful, and received no impulse on coughing. It was soft on the surface, but towards the neck felt very hard. The pulse was quick and small, and the countenance anxious. A freezing mixture was applied until my arrival at 8 P.M. After investigating the case, I arrived at the conclusion, that a portion of intestine was strangulated beneath a quantity of omentum, and had been in this state so long, that it was useless to try the taxis. I accordingly determined to operate at once. An incision, three inches long, was made over the centre of the upper part of the neck of the tumour, through a thick mass of fat, and an attempt was made to divide the stricture without opening the sac, or by making a small opening at the neck without exposing the contents. This proved very difficult, owing to the great depth of the stricture (about two inches from the surface), and the small size of the abdominal opening; it was therefore abandoned. The incision was extended to the bottom of the tumour, and then measured about six inches in length. The hernial sac was opened freely, and found to contain a large mass of omentum closely condensed and matted together. On tearing through this mass, a dark knuckle of intestine was exposed. The stricture was divided, the intestine returned into the abdomen, and the omentum, which was adherent to the sac, left *in situ*. The wound was closed by sutures, and the patient sent to bed. No medicine was ordered; but

she was allowed beef-tea, and wine and water, as soon as the stomach would bear food. Shortly after the operation, in consequence of her complaining of much pain in the abdomen, Mr. Holman, the House-Surgeon, ordered her to have immediately the following pill: ℞ Calomelanos gr. v; pulv. opii gr. j.

19*th*, 1 P.M. Bowels had not acted; abdomen tender and painful. In the evening, the tenderness and pain in the abdomen having increased, the following pill was ordered: ℞ Calomelanos gr. ij; pulv. opii gr. ¼. To be taken every four hours.

20*th*. The bowels had been freely relieved, and the pain in the abdomen had subsided. The patient was much depressed; the pulse was small and quick; the tongue dry and brown. The calomel and opium were discontinued. Eight ounces of port wine, and a pint of beef-tea, were ordered.

21*st*. The patient was extremely feeble, and the wound in a sloughy state. She was ordered to take the following draught three times a day: ℞ Misturæ camphoræ ʒi; tincturæ cardamomi comp. ʒj; ammoniæ sesquicarbon. gr. v; and, besides the wine, to have two pints of porter, and an additional pint of beef-tea.

22*nd*. The powers of the system were not so depressed, and the tongue was moister. The whole of the hernial sac and its integuments, and the greater part of the protruded omentum mortified, and, in the course of time, separated in sloughs. The patient was placed on a water bed, and supported with stimulants and a nourishing diet. The immense wound left after the detachment of the dead parts granulated and healed, though very slowly. The skin around became the seat of a troublesome eczema, which resisted various applications, but yielded to the following lotion: ℞ Acetatis plumbi., gr. xvj; spiritûs vini rect. ʒij; acidi hydrocyanici diluti, ʒij; aquæ ʒ xij. She gradually recovered her strength; and, having been fitted with a truss, was discharged cured April 28th.

Case III. Strangulated Femoral Hernia—Operation—Recovery. Ambrose Goodin, a spare old man, aged 69, was brought to the hospital, on the 24th of March, 1849, suffering from a Strangulated Femoral Hernia, of rather large size, on the right side. He had been subject to the rupture for 20 years, and had long worn a truss for it. It came down on the 20th, since which he had been unable to reduce it, but had kept the truss pressing on the tumour during all that period. The swelling was tense, and received no impulse on coughing; and the general symptoms of strangulation were urgent. He vomited continually, had hiccough, a feeble pulse, and cold extremities. I had visited the patient at his residence, and tried the taxis; and having again failed in a slight attempt made after his admission, the operation was decided on. I cut down on the neck of the hernial sac, and carefully divided all the bands which appeared in any degree to constrict the neck, but without being able to reduce the hernia. The sac was, therefore, opened; and, after the division of a tight stricture formed by its neck, a portion of small intestine, a good deal congested, was returned into the abdomen. As soon as the sac was opened, about four drachms of dark bloody serum escaped. After the operation, the patient was very

low, and continued to suffer from hiccough. He was carried to a warm bed; heat was applied to the extremities; and he was ordered the following draught: ℞ Mist. camphoræ ʒj; spiritûs ætheris sulphurici comp. ʒj; tincturæ opii m. xxx. Beef-tea was ordered to be given when the stomach could bear food.

25*th*. The bowels not having acted twenty-two hours after the operation, he was ordered a drachm of sulphate of magnesia in an ounce of peppermint water every second hour, until the bowels acted; but not to exceed four doses, before he was again seen. The bowels acted in the evening after two doses. He was allowed eight ounces of wine in addition to the beef-tea. Under this treatment, his pulse improved in strength, and he recovered without any unfavourable symptom. The wound was dressed on the 28th. It was found to have united by the first intention throughout, except at one spot, where a sinus opened. This continued to discharge for some time, but closed by the 15th of April, when he was discharged cured.

Case iv. Strangulated Femoral Hernia of large size—Operation—Sac opened—Sloughing of the Sac and Omentum—Recovery from the Operation—Epithelial Cancer of the Strangulated portion of Intestine, and Death eight weeks afterwards. Harriet Barnett, a widow, aged 81, residing at Stratford, of lean appearance, but who had always enjoyed excellent health, was admitted into the London Hospital, at 9 p.m., December 2nd, 1849, suffering from a Strangulated Femoral Hernia on the right side. She had been subject to a rupture for twenty years; but had always been able to return it without assistance, excepting upon one occasion, eight years ago, when she was brought to the hospital and got relieved in a warm bath. She had since that time worn a truss. She stated that the rupture came down whilst she was in bed, about three o'clock on the morning of her admission. This was shortly followed by pain and sickness, which continued throughout the day. She sought the assistance of a surgeon in the neighbourhood, and was attended by his assistant, who, according to her account, used considerable force in attempting reduction. A tobacco injection and tobacco smoke having been introduced into the rectum without effect, she was sent to the hospital, a distance of four miles. Upon her admission, she was placed in a warm bath, and the taxis was again tried, but without success. I was summoned; and, on my arrival at 10 p.m., found a large Femoral Hernia, about the size of a cricket ball, which was tense and rather painful. She complained of some uneasiness at the umbilicus: but the abdomen was soft. Her pulse was rather weak. I directed a bladder of ice to be applied to the tumour for a quarter of an hour; and, having made steady but gentle pressure on the part without effect, decided on operating. The stricture was divided chiefly external to the sac; but, in doing so, I made a small opening at the neck, which allowed the escape of a quantity of serum tinged with blood. Being unable to return the protruded parts, I opened the sac, and exposed a large mass of omentum, and about six inches of small intestine, and found the principal obstacle to the reduction to arise from the swollen condition of a portion of the intestine, the coats of which were infiltrated, in a remarkable manner, with extravasated blood. So great was the

effusion, that it was surprising that the serous coat had not given way. With some trouble, the intestine was carefully returned. Being unwilling to replace the large mass of omentum, I excised a considerable portion of it. This was followed by free bleeding from several small arteries, and no fewer than five required tying. During the operation, the pulse was intermittent, and became very feeble. She took some wine, which was rejected. She was removed to a warm bed, warmth was applied to the feet, and I prescribed the following draught to be taken immediately: ℞ Misturæ camphoræ ʒj; spiritûs ætheris sulphurici comp. ʒj; tincturæ opii m. xxx. Warm brandy and water, and beef-tea, were ordered to be taken when the stomach would bear them.

December 3rd. She had been much relieved by the operation, and felt tolerably comfortable. Her pulse was very quick, and there was considerable tenderness of the abdomen, but no tension. She had taken four ounces of brandy since the operation. This was discontinued; and, at the patient's request, a pint of porter was substituted. A grain of calomel with half a grain of opium was ordered to be taken night and morning, and a castor oil injection to be given at night.

December 4th. The bowels had been freely relieved after the injection; but the stomach continued rather irritable. In consequence of pain at the umbilicus, Mr. Wyatt, the House-Surgeon, ordered four leeches to be applied. The sickness continuing, she was ordered a draught of camphor mixture, with twenty drops of aromatic spirits of ammonia and ten drops of laudanum. Two ounces of brandy were given in place of the porter. The calomel and opium were discontinued.

December 5th. The wound was dressed, and looked healthy. The sac containing the omentum was rather tender, and distended with fluid. She was placed on a water bed. Although the upper part of the wound continued to heal favourably, the appearance and smell of the discharge from the sac below, and the state of the integuments, led me to suspect that mortification was taking place.

December 10th. I laid the part freely open with a bistoury, and found the sac and omentum within in a sloughy state. A few days afterwards, she had an attack of bronchitis, which reduced her strength considerably. The chest symptoms were relieved by suitable remedies; and she was supported by stimulants, being allowed four ounces of brandy, in addition to eight ounces of wine and a pint of porter daily. She rallied a good deal under this treatment. The mortified parts by degrees separated, and the wound made by the operation quite healed up by the 25th. This part bulged a good deal, in consequence of a hernial protrusion at the original seat of rupture. She improved so much, that there appeared a good hope of her final recovery. During, however, the cold month of January, she became very feeble. She also complained of severe pain in the seat of the rupture, attended with considerable uneasiness in the back, which occurred at intervals. The pain was accompanied with extreme languor, faintness, and cold perspirations. The bowels had been at times sharply relaxed, but latterly had been tolerably regular. She was at length able to take scarcely any nourishment besides stimulants, became much emaciated, and depressed in spirits; and, after gradually sinking day by day, expired on January 24th, seven weeks and four days after the operation. At this time,

there was only a small triangular sore remaining at the bottom of the wound, occasioned by laying open the lower part of the sac a few days after the operation.

Sectio Cadaveris twenty hours after Death. There were marks of bronchitis in the lungs. The abdominal viscera generally were healthy. On the right side, the omentum was adherent to the femoral ring, and to the bottom of the closed sac; and a small portion of the ascending colon protruded into the cavity. The coats of this part of the great intestine were thickened and indurated, and the peritoneal coat was slightly puckered. On passing the finger through the gut, the passage was found to be slightly contracted; and, on dividing it longitudinally, I found a large raised ulcer of an oval shape, the long diameter of which was in the transverse direction, and nearly two inches in length, and the short diameter an inch and a quarter. The edges of the ulcer were everted, and the base indurated. The surface presented small irregular spongy-looking granulations or excrescences, more or less congested. A section being examined microscopically, the raised granulations were found to consist of epithelial growth, the base of the ulcer being formed chiefly of indurated areolar tissue.

Remarks. These four cases, three of which occurred within six weeks, are examples of Successful Operation for Strangulated Hernia on persons of advanced age,—a time of life at which the operation does not commonly succeed in saving the patient. I have the reports of fifteen cases (out of a table of two hundred and eight) in which the operation of Hernia was performed in the different hospitals of London, on individuals of the age of seventy and upwards; and of these, only four recovered.

In the first of the cases just related, independently of the great age of the patient, the circumstances were favourable. The Hernia was recent, and the sac was unopened in the operation. In the third case, strangulation had existed for four days, and the great prostration made me apprehend mortification of the protruded parts. This fortunately had not taken place; and, with the aid of stimulants and a nourishing diet, the patient rallied, and recovered rapidly without a bad symptom. The second and fourth cases are by far the most remarkable. In the second, the patient incurred not only the ordinary and serious perils of a Strangulated Umbilical Hernia of large size, requiring an operation for its relief, but also those consequent on mortification of a large mass of omentum, and of the whole of the hernial sac and its integuments. She owed her recovery, under such unfavourable circumstances, in great measure to a sound constitution, carefully preserved by an abstemious life. In the fourth case, in which the patient had attained the age of eighty-one, the operation was also followed by sloughing of a large piece of omentum and of a great part of the hernial sac. She bore up surprisingly under all this, and even rallied from a sharp attack of bronchitis at the coldest season of the year; but she sank at last, chiefly from the effects of a remarkable disease of the intestine, which we may presume was engendered partly through the agency of the stricture, but more especially by the rough attempts to reduce the Hernia by the taxis, made previously to the patient's admission into the hospital.

In the large number of operations for Hernia which I have witnessed, I have never seen a portion of intestine exhibit such striking marks of violence, as existed in this instance. The peculiar ulcerated sore which was found at the part, gives much additional interest to this case. The disease presented the characters of epithelial cancer, resembling, in its microscopical appearances, the growths occasionally developed in various parts of the skin. I do not recollect having seen any description of this rare form of ulcer in the intestine by an English writer; certainly I have met with no account of any such disease occurring in a portion of intestine injured in rupture. The following description given by Rokitansky, of the characters of certain sores occurring in the large intestines, corresponds exactly with the appearances of the ulcer in the above case. This eminent pathologist does not appear to have fully satisfied himself as to the nature of the disease. "There are certain ulcers which occur only in the large intestine, and especially in the sigmoid flexure and the rectum, and are nearly allied to cancer, and particularly to cutaneous cancer. They are generally solitary, but there may be two, three, or four at a time. They invariably give rise to intense pain, and appear etiologically connected with an abuse of ardent spirits. Although in many respects analogous to the ulcers hitherto considered, they offer distinctive characters. They are invariably zonular, and have a callous base, upon which, occasionally, a discoloured brownish grumous discharge is visible, and they are surrounded by a thick tumid, spongy, carneous, and irregularly sinuous margin of mucous membrane. They generally cause a diminution of the capacity of the intestine, though not to any considerable degree. A further investigation into their nature still remains a desideratum."[1]

It may be a question, whether such extensive disease in the mucous membrane of the colon could have been developed in so short a period as that which intervened between the operation and the patient's death; and her feeble condition, and the slow progress of the affection of the skin, which seems analogous to this, would strengthen the doubt on the point. Nor is our knowledge of this disease of the intestine, sufficient to determine the question satisfactorily. The previous healthy condition, however, of the patient, the bruised appearance of the intestine at the time of the operation, and the severe pain experienced in the part for three weeks before death, lead me to conclude that this large epithelial sore was recent, and owed its origin to the local injury.

After operating for Strangulated Hernia, I very seldom give aperients until sufficient time has passed to enable the intestines to resume their functions naturally, after the interruption caused by the stricture. In many cases, this takes place spontaneously within twenty-four hours after the bowel has been released,—occasionally later; but, by waiting, we may avoid disturbing the injured intestine and irritating the parts, at a time when repose is desirable to promote their recovery from congestion and inflammation. The propriety of this practice, as a general rule, has recently been enforced by several writers.[2] In old people, the

[1] Rokitansky. Manual of Pathological Anatomy. Translated for the Sydenham Society, vol. ii, pp. 100-1.

[2] Cock. Guy's Hospital Reports. Hancock on Hernia: London: 1849.

disadvantage of exhibiting aperients shortly after the operation is decidedly greater than in persons less advanced in life; for, besides the reasons just stated, the system often becomes so depressed from the effects of strangulation—from the vomiting and interruption to the alimentary functions, that after the addition of the shock of the operation, anything which lowers still further the powers of life, materially tends to prevent recovery. I have witnessed cases in which the operation for Hernia has been performed on old people, and an aperient given shortly afterwards, where this treatment, by actively disturbing the bowels, has seriously interfered with the chances of recovery. It has either helped to produce a fatal collapse within a few hours, or has contributed to depress the constitutional powers to such an extent, that the repair of the injured bowel has not proceeded, and the patient has gradually sunk in the course of two or three days. The degree of shock to the system, which may be occasioned by a Strangulated Hernia, will be illustrated by the following case:

Strangulated Femoral Hernia—rapidly fatal. Ann Wood, a woman of spare habit, aged 60, was admitted into the London Hospital, in July 1836, labouring under symptoms of Strangulated Hernia. She had been subject to a reducible Femoral Hernia for several years. The Hernia was small, and had been down less than forty-eight hours. She was in a state of great prostration; so much so, that slight attempts at reduction having failed, it became a question whether she would be able to bear the operation. She was taken into the operating theatre, but after dividing the integuments and a layer or two of fascia without loss of blood, I considered it advisable to desist, being apprehensive that she would die on the table. In a few minutes after being carried back to bed, she expired. On examination of the body, I found slight marks of peritoneal inflammation. The sac contained a knuckle of intestine, strictured and deeply congested.

In this case, the strangulation of a portion of intestine appears to have proved fatal within the short period of forty-eight hours.

Whilst objecting to the early administration of aperients after an operation for Strangulated Hernia, I must observe, that there are evils attending an obstinate and inactive condition of the bowels, which, in old people especially, cannot be disregarded. After the rejection from the stomach of every kind of nourishment for some period previously, evacuations are generally followed by a desire for food: and the sustenance taken at this time of debility greatly contributes to the patient's revival. Whereas, if the stomach and bowels be suffered to remain torpid, or be kept so by opiates, the indisposition for food, and indolent state of the digestive organs, may prevent a healthy reaction. The best mode of obtaining evacuations at this period, is by enemata; but mild aperients are not to be altogether set aside; and those who so strongly advocate the advantage of opiates, must take care that in endeavouring to avoid one source of danger, they do not incur the risk of producing exhaustion, by indisposing the alimentary canal to imbibe nourishment and support.

In February 1847, I operated for Strangulated Femoral Hernia on a lady aged 70: the sac was not opened, and she recovered favourably. In November of the same year, I operated for Strangulated Femoral

Hernia at the London Hospital, on a woman aged 73, and on a man aged 77. In the former, strangulation had existed for three days, and the sac was opened. She was much depressed at the time of the operation, and survived it only twenty-one hours. In the latter, the stricture was divided external to the sac, and the patient recovered. In the January following, I operated also for Femoral Hernia on a female aged 78, and opened the sac. She recovered from the immediate effects of the strangulation and operation, but was subsequently attacked with erysipelas, of which she died on the ninth day after the operation. These cases, added to the four I have previously detailed, make eight cases of operation for Strangulated Hernia in advanced age. Of these, five recovered and three died: the case of death from disease of the intestine, at the end of eight weeks, being included in the latter.

Old persons, when affected with Strangulated Hernia, do not suffer so acutely as younger subjects. The injury to the intestine does not so readily lead to inflammation of the peritoneum, and the symptoms of constitutional disturbance are more subdued, so that the active treatment often called for in other cases after the operation, is rarely required, and can seldom be tolerated. Indeed, when called to such cases, I have often been struck with the mildness of the symptoms and the slowness of their progress; the absence, or slightness of pain in the abdomen; the little tenderness in the swelling; the small degree in which the pulse is disturbed, and the comparatively tolerant condition of the stomach. But the evil to which I have adverted, the threatening failure in the powers of life, though not so forcibly presented to the notice of the surgeon, is no less dangerous, and requires his skilful and judicious management. The remedies which are obviously indicated, are external warmth, opium, ammonia, beef-tea, and often wine, or even brandy. The patient requires, in fact, to be supported under the depressing influence of his complaint.[1] These remarks are not intended to apply to cases of mortified intestine; for the necessity of support in such cases is too urgent, to need any recommendation of the treatment. But my object has been to strengthen the objections which have been offered to the use of aperients shortly after the operation for Hernia, by shewing their peculiar inappropriateness for persons in advanced age; to point out, that when Hernia occurs at this period of life, greater danger is to be apprehended from a failure in the powers of the constitution, than from inflammation of the bowels, or of the peritoneum; that treatment, which would be improper or hazardous soon after an operation performed in early or middle life, is sometimes absolutely required to prevent the aged patient from sinking; and that depletive remedies can seldom be resorted to without risk.

37, New Broad Street, City.

[1] The greatest age at which a successful operation for Strangulated Hernia has been performed, that I know of, is the case of a man aged 107, who was operated on for Inguinal Hernia, by Mr. Cæsar Hawkins, in St. George's Hospital. The symptoms were not severe: the wound united by the first intention, and the patient recovered. It is stated that "nourishment was given him from the first." *London Medical Gazette*, vol. xxxi, p. 376.

ILLUSTRATIONS OF DISEASES OF THE NERVOUS SYSTEM.

By WILLIAM H. MADDEN, M.D., Physician to the Torbay Infirmary and Dispensary, etc.

NO. II. GENERAL SOFTENING OF THE MEDULLA SPINALIS.

Case. Miss C. first came under my care on November 8, 1843. According to the history I received, she had been subject for many years to frequent attacks of inflammation of the coats of the liver, but had not lately suffered from any acute affection of the kind. At the time of my visit, she complained of a dull, heavy pain in the right hypochondrium and epigastrium, the parts being tender on pressure. There was no enlargement of the liver, nor any tenderness in any other part of the abdomen. She had no cough, and could draw a full breath without pain; but the lower part of the right chest did not expand so well as the left. There was no headache. On the preceding night, she had had rigors, followed by fever. When I saw her, the skin was perspiring freely. She complained of slight nausea. The tongue was covered with a white clammy fur, and indented by the teeth; the bowels were open, without the aid of medicine. Pulse 98, soft. She felt restless, and had no appetite. The complexion was sallow. She had not menstruated for five weeks. These symptoms were in a great measure relieved by local bleeding, alterative aperients, and occasional sedatives; but the pain and tenderness did not leave her, and, on the 14th, she had, in addition, severe pain in the lower lumbar and sacral regions. There was also a spot about one inch to the right of the umbilicus, where pressure caused much suffering, and where there was an obscure feeling of hardness. A few days after this, she began to complain much of pain in the region of the heart; and this symptom was long persistent, being frequently accompanied by irregular action of the organ; but there were no murmurs, nor any other evidence of structural change. The catamenia appeared, with much pain, on the 22nd.

During the next month, matters remained in much the same condition. The digestive organs were sometimes in a more healthy state; but the improvement was only transient, and there were rigors almost every night.

In January 1844, the cardiac pains were so severe, as almost to merit the appellation of *angina pectoris;* and in this form they continued to manifest themselves, in spite of all treatment, until the end of April. Nor, when this symptom had at length disappeared, was my patient much benefited; for if the chest was more easy, the back was worse, the lumbar and sacral regions being very tender on pressure, and the seat of frequent acute pain, which extended along the right sciatic nerve, and into the right hypogastric region. The latter was more especially affected during the catamenial periods, which were always characterized by intense suffering.

It would be tedious to narrate with any minuteness the progress of this wearisome and most unsatisfactory case. My notes record a melancholy succession of aggravations and partial improvements; of spasms

in the limbs, and spasms in the chest; of violent palpitations, and sudden momentary arrests of the heart's action; of headache, and inflamed eyes, and gastric disorder; and the ever-recurring terrible dysmenorrhœa, against which all medicines but opium were utterly powerless. The general health, of course, gradually deteriorated. Motion, of any kind, so greatly increased my patient's suffering, that, after long perseverance, she gave all efforts up, and was allowed to remain almost constantly in bed.

At the beginning of 1845, her aspect had become very cachectic, resembling that of a person afflicted with malignant disease. The pains were intense; and, in the hope of affording some temporary relief, I ordered, on February 16th, the tincture of Indian hemp. She took three doses, of ten drops each; after which, she complained of creeping sensations in her limbs, and fancied that a mouse was in the bed. The medicine was then discontinued. An hour or two afterwards, while getting out of bed to relieve the bowels, she suddenly became insensible. General convulsions then ensued, and lasted during twelve hours, when she died.

Before describing the appearances found on dissection, I must say a few words regarding the *treatment*. It, of course, varied from time to time, as particular symptoms seemed to demand special appliances; but, on the whole, it partook more of a tonic character than of any other. The cardiac pains, after resisting all other means, yielded at last to arsenic, and remained absent for a considerable time; but they subsequently recurred on several occasions, though scarcely with the same violence or frequency. The severe pains in the back and right hypogastrium, were most effectually relieved by small local bleedings; sedative applications did no good, and counter-irritants proved rather injurious than beneficial The preparations of steel were found to be the most useful tonics, and morphia the only trustworthy sedative. The long progress of the case afforded me many opportunities of testing the efficacy of various new remedies, which were highly lauded in the journals of the period; while its extreme obstinacy not only warranted, but seemed to demand a trial of anything which held out a prospect of relief. I cannot, however, say that I had ever any reason to congratulate myself on having made the experiments. The *succus conii*, strongly recommended by Dr. Neligan, proved a very inefficient sedative. The tincture and extract of *cynara*, of which Dr. Baddesley speaks very highly, produced no effect, excepting a transient unpleasant sensation in the head and eyes, the latter feeling as if they were too large. The *terchloride of carbon*, which was stated at the time to be a remarkably powerful local and general sedative, proved an utter failure; it had no action whatever. I tried the *Indian hemp* two or three times, both as a hypnotic, and for the purpose of relieving the dysmenorrhœa, but without any good effects in this case; though, at the same time, it acted like a charm with a sister of my patient's, who suffered very severely at the menstrual periods, and with whom opium always disagreed. On one occasion, two grains of the extract caused much disturbance of the action of the heart, and then affected the head with confusion, giddiness, etc.; but these symptoms soon passed off, after the administration of a little ammonia.

Sectio Cadaveris, Thirty Hours after Death. *Head and Spine.* There was sub-arachnoid effusion in the head, and the brain was somewhat œdematous, but otherwise healthy. There was also considerably more fluid than usual in the spinal sheath. The spinal arachnoid was spotted with numerous white scales, about a line in diameter, some smooth, others scabrous and feeling gritty, as if from commencing bony deposition. The cord, throughout nearly its whole extent, was in a state of ramollissement, its true structure being scarcely discernible. The nerves of the *cauda equina* were covered with innumerable granules, about the size of a pin's head.

Chest. The right lung was intensely congested, and united to the parietes of the chest, over its entire surface, by old adhesions. The left lung was free, and less congested. There were no tubercles. The heart was healthy.

Abdomen. The omentum was found firmly adherent to the parietes in the right iliac region, the attachment being of old date. The liver was perfectly healthy, both in its substance and tunics. There was a small cyst in each ovary.

Remarks. This case, as regards its symptoms, stands in marked contrast to the one which I recorded in my former paper.[1] In that, it will be remembered, the most prominent manifestation of disease consisted in diminution of the sensibility of the cutaneous surface; there was much pain in the back, when the spine was exposed to succussion, or other violent motions, but want of feeling was the great and pressing ailment. In the case now brought forward, the very opposite state of matters obtained,—intense and scarcely mitigable pain was its chief feature. And yet the difference between the pathological conditions of the cases, as revealed by dissection, was not great. In both we found morbid softening of the spinal cord. In Mr. P.'s case, this ramollissement, confined, or nearly so, to the cineritious matter, was complete in its degree, the centre of the organ being reduced to the consistence of thick cream; in Miss C.'s, all the tissues were involved, but the softening had not proceeded so far. It was sufficiently decided to render the structure almost indistinguishable by the naked eye, but not enough to convert it into a pulp. And herein, perhaps, we may find the means of reconciling the symptomatic discrepancies; for it is quite conceivable, nay, demonstrable, that the same disease of a nervous centre may, in different stages of its progress, produce results of the most opposite character. The great difficulty which lies in the way of this explanation, is involved in the fact, that the *first* symptom in Mr. P.'s case was the anæsthesia; at least, the first of which I had any cognizance.

But, setting this aside, and not attempting to speak dogmatically of what is probably insusceptible of absolute proof, the case just narrated appears to me of especial interest, as showing that there may be more organic mischief going on than is commonly suspected, in that class of cases to which the term *spinal irritation* is usually applied. That this was the nature of my patient's disease, all who saw her were, I believe, thoroughly convinced. It presented the phenomena generally regarded

[1] London Journal of Medicine, January 1850, p. 10.

as diagnostic of that affection. There were the variable neuralgic pains; sometimes seizing on the chest with intense severity, and giving rise to the tortures of angina pectoris; sometimes localized in the hypogastrium, or darting down the sciatic nerve, or fixed in the back itself, and rendering motion almost impossible. In addition, there were the uterine disturbance, scanty menstruation, with intolerable suffering, and the various indications of disordered functions, which are almost never absent under circumstances of that nature. Moreover, on more than one occasion, we had manifestations of those anomalies, which so frequently characterize purely nervous disorders. Being strongly impressed with the views of the case just noticed, and anxious every way to give tone and strength to the system, I encouraged and urged my patient to persist in leaving her bed, and going into the open air as much as possible. Of course, this was done cautiously, all unnecessary motion being avoided; and she persisted in it, although she affirmed that on every movement the pains were much aggravated. I confess I scarcely believed this (imagining that, in common with most patients of the same class, she unconsciously exaggerated her sufferings), until, on one occasion, my visit happened to be paid while she was out of doors. I found her lying on a stretcher in the garden. She had been carried there as gently as could be accomplished; but the pale, anxious, ghost-like face, the feeble pulse, and cold clammy hands, convinced me that my suspicions were not correct, and taught me to be less urgent in future. And yet, in spite of all this, we had conclusive proof that she did, more than once, get out of bed unaided, and walk to various parts of the room to procure what she wanted, without any evidence of such increased suffering as, at other times, was induced by simply lifting her from the bed to a sofa. It is not easy to explain these things.

The most commonly received view of the pathology of spinal irritation is, that it depends upon a congested state of the medulla; and the relief so frequently afforded by local blood-letting, is a strong argument in its favour. I have seen the most obstinate and incessant vomiting, which had for days resisted all treatment, at once removed by the application of a few leeches to the spine. But the case before us shows, that a more serious local mischief may give rise to symptoms of precisely the same nature. It shows that they may have, as their cause, something more than mere vascular congestion,—that there may be actual perverted nutrition of the cord itself. And it is well to bear this in mind; for it is clear that, in such a case, if the disease be not arrested in its progress, the issue may be paralysis.

We come then to consider, what was the cause of the spinal affection. Some years before she came under my care, my patient fell down some stairs, and hurt her back a good deal; but the immediate effects soon passed off, and she had no symptoms indicating mischief in the parts. Nevertheless, it is quite possible that this accident may have laid the foundation of her future ailments.

But there is another hypothesis to which I would direct attention for a few moments, because, though perhaps it is unneeded in, or even inapplicable to, the explanation of the preceding case, it yet, as appears to me, will prove of much value in the elucidation of the majority of instances. Dr. Todd, in his Lumleian Lectures for 1849, contends for

the humoral origin of chorea and epilepsy; and the writer of a very admirable article on the "Physiology and Diseases of the Nervous System," in the January number of the *British and Foreign Medico-Chirurgical Review*, while examining, and in a great measure supporting Dr. Todd's views, extends them also to the protean disease, hysteria. The idea, as my readers are doubtless aware, is, that in these cases there exists a depraved and perhaps a poisoned state of the blood, whereby the nervous battery is irregularly or abnormally excited, and thus the phenomena of the disease are produced. To my mind, this appears a much more satisfactory method of accounting for the morbid manifestations, than the vague nonentities, nervous irritation, functional disturbance of the nerves, etc., to which they are usually referred. A short time ago I had, in my own person, a proof of the correctness of the general principle. I was suffering from a severe attack of hemicrania, the pain being seated in the right side of the head. When it was at its height, I was seized with a most unpleasant sensation throughout the whole of the left side of the body, and the extensor muscles of the left leg were excited to clonic contractions. The action was entirely automatic. I could control them by a determined effort of volition; but the moment the influence of the will was withdrawn, the motions recommenced, and the limb was gradually and forcibly extended to its full length. I observed, also, that there was a perfect absence of the feeling of muscular fatigue which accompanies voluntary movements. Now, in this instance, the exciting cause was, very manifestly, imperfect elimination of bile, which had existed for some days previously; and the attack was at once ended by a gentle mercurial alterative, which restored the right action of the liver.

Here, the disturbance of the nervous system was both slight and transient; but in the case to which I shall now briefly refer, it was of a very much more severe, and even, at one time, alarming character. The subject of it was a lady, who had been for many years in bad health, suffering from a complication of maladies, which it is not necessary to particularize. The attack for which I was consulted commenced as severely acute bronchitis. She was first seen by my friend Dr. Battersby, on Nov. 27, 1843, having been ill for some days. I was called in on the 30th. She was then apparently almost moribund, with a death-like countenance; orthopnœa; loud tracheal rattles, which could be heard in every part of the room; a dry tongue; quick, compressible pulse; and no strength to expectorate. From this very depressed state she gradually rallied, under the use of senega, wine, etc., and was able to relieve herself of a quantity of muco-purulent secretion. Her progress was fluctuating for several days, but on the whole, she appeared to gain ground slowly, though the brain was often oppressed, and there were fits of extreme restlessness, in which she sometimes rolled the head from side to side with great rapidity. On the evening of January 9th, she was found throwing her arms about violently, with rigidly extended fingers: she was sensible, but dull: the head was cool. Next morning, she had violent convulsions, and there was much stupor: during the day, the paroxysms became shorter, and in the evening, the spasms left the limbs; but the muscles of the face became frightfully affected, and there was almost trismus. These symptoms continued more or less for many days, but gradually passed off, and the patient satisfactorily recovered.

Now here, I apprehend, it is also abundantly clear that the blood was the element at fault. Our patient was habitually asthmatic; her lungs were emphysematous, and she had suffered from an inflammatory attack which nearly destroyed life by suffocation. That the blood must have been most imperfectly decarbonized, there can be no doubt; and that the secretions generally were in a most disordered condition, we had ocular proof in the unhealthy evacuations. Moreover, each temporary improvement was coincident with a free discharge from the stomach and bowels; and there was nothing either in the past history, or the immediate antecedents of the case, to render it probable that there was actual disease of the nervous centres.

The sequence of causation would, therefore, I imagine, be somewhat of this nature. The blood, not originally of the most healthy character (as was evidenced by the history of our patient, and more especially by the fact, that she was subject to frequent attacks of eczema), had become imperfectly arterialized from the long-continued and severe obstruction to the respiration. This half-venous blood, carried to the various secreting organs, proved an abnormal and insufficient pabulum, and was, in consequence, not thoroughly purified by the separation of the ingredients of the secretions: and being thus still further deteriorated, it acted as an unnatural stimulus to the nervous centres, disturbing, in Dr. Todd's language, their polar state, and thus inducing the convulsive phenomena.

May not something analogous to this be the operative agent in many cases of spinal irritation? May it not be found that these cases too, as well as those we have already noticed, own a true humoral origin? Much may be said in favour of such a view. The subjects of the disease are, for the most part, persons of weak constitution, delicate females, who do not menstruate properly; and in almost all, there are evidences of depraved nutrition, and of disordered function of important depurating organs. The phenomena of the disease too, the sudden shifting of the pains from one part of the body to another, the tendency to periodicity not unfrequently exhibited, and the common complication with the regular hysteric paroxysm, appear to me to point in the same direction. The character of the remedies found to be most successful in the treatment, and the general *juvantia* and *lædentia*, will equally receive their most correct exposition on such an hypothesis. Nor am I prepared to affirm that, even in cases like the one which has been the subject of this paper, where absolute organic change is found after death, the same explanation is altogether inapplicable; for it is quite conceivable that the continued stimulation may, under certain favourable conditions, induce abnormal nutrition in the organ thus acted upon, precisely as in some cases of gout and rheumatism, the *materies morbi*, directed during a long period to particular joints, leads to the deposition of what are called chalk-stones, and to other positive structural changes.

Torquay, May 1850.

TWO CASES SIMULATING DISEASE OF THE LIVER.

By ALEXANDER KNOX, M.D., Physician to the Dispensary, Strangford, County Down, Ireland.

Case I. Intestinal Concretion, simulating Disease of the Liver. Mrs. H., the wife of an officer in a dragoon regiment, had suffered much from bad health, and had, on several occasions, been under my care for severe and occasionally dangerous attacks of bronchitis. From change of residence and other circumstances, she had ceased to be a patient of mine; but on one occasion, being in Dublin, I was requested to visit her at Kingston, where she had been long confined to bed, by disease which was considered, in consultation, to arise from an affection of the liver. Her case, as I was informed, was considered hopeless, and her death was looked for as an impending event. She was certainly labouring under extreme debility, but not, in my opinion, affected with any symptoms denoting speedy dissolution. On careful examination, I ascertained that there were considerable abdominal swelling and partial obstruction of the bowels, and the diagnosis arrived at, on careful consideration, was to the effect, that the hepatic symptoms, which were evident enough, were not owing to any organic affection, or incurable disease of the liver, but symptomatic of the pressure and irritation of that viscus by some intestinal concretions, of the existence of which I fully satisfied myself. Being merely consulted as a friend, I did not, of course, interfere with the treatment, which appeared to be perfectly appropriate; but she was led to hope that her case was not, by any means, to be despaired of, and that if the intestinal obstructions were got rid of, there were good grounds to expect her ultimate recovery. She was, as I subsequently learned, ill for a considerable time, and a large Intestinal Concretion, the composition of which I could not ascertain, was at length expelled from the rectum, when perfect recovery took place, and she lived for several years afterwards.

Case II. Tumour in the Right Hypochondrium, simulating Disease of the Liver. Mrs. ——, the wife of a physician, had suffered from the symptoms of hepatic disease from time to time, combined with indigestion, and occasional very severe attacks of gastralgia. A solid persistent tumour had existed for a considerable period in the right hypochondriac region, which was supposed to be either a chronic enlargement of the right lobe of the liver, perhaps of the lobulus Spigelii, or else a biliary calculus. My attendance on her became necessary, on account of acute tenderness supervening at the site of the tumour, and a violent attack of acute symptomatic fever. She had, in fact, all the symptoms of enteritis, for which pretty active antiphlogistic treatment was necessary. Among the remedies employed, were full doses of calomel, followed by castor oil. During their exhibition, the supposed hepatic tumour shifted its ground, and then disappeared permanently from the position it had so long occupied. It was ultimately expelled per anum, and found to be a mass of indurated fæces, firmly agglutinated, constituting a specimen of the enterolithus scybalum of Good. Its nidus had probably been in the transverse colon: although I had satisfied myself of the continued existence of this tumour for several years, it remained

quiescent all the time, until the period alluded to, when from some cause or other it appears to have excited an attack of inflammation, which indirectly led to its expulsion. Perfect recovery followed the attack; and, at the distance of several years, there has been no appearance of a tumour in the site which it formerly occupied, nor any trace of fulness of the liver, or other symptom of hepatic disease. Attacks of dyspepsia, however, recur from time to time; but the gastralgia has greatly abated both in severity and frequency.

ON CONICAL CORNEA.

By W. WHITE COOPER, Esq., F.R.C.S., Senior-Surgeon to the North London Eye Infirmary, and to the Artillery Company, etc.

[*Concluded from last Number, p.* 419.]

Mr. James Dixon, Surgeon to the Royal Ophthalmic Hospital, Moorfields, has, like myself, devoted much attention to the subject of Conical Cornea. On the publication of the first part of this paper, he, in the most handsome manner, placed at my disposal the result of his observations; and I cannot but feel, that any value, which my communication may possess, is greatly enhanced by the contribution of so accomplished an ophthalmic surgeon as Mr. Dixon. The following are his remarks:—

"Conical Cornea particularly engaged my attention about six or seven years ago. The rarity of the disease, and the consequently limited opportunities that had occurred for investigating it anatomically, and the contradictory theories on the subject, made me curious to learn more of this *opprobrium medicinæ*. I hoped to be able to determine for myself the real nature of the morbid change, but in vain; and, in the absence of any original researches into its true pathology, the notes I now send can be only regarded as *mémoires pour servir à l'histoire*, rather than as history itself. I can at least offer you a complete table of the cases recorded at our hospital since its first establishment. You will observe that the disease is first mentioned in 1819; before that time it was probably classed with staphyloma.

"As regards the earliest notices of Conical Cornea, a curious mistake has been made by almost every writer on eye-diseases, from Wardrop downwards, in attributing to Leveillé the authorship of what he merely translated—namely, a note in Scarpa's *Treatise on Diseases of the Eyes:* but if the first edition of that work (*Malattie degli Occhi*, fo. Pavia, 1801), be referred to, the so-called 'note by Leveillé' will be found entire at page 215. Our own countryman, Ware, however, had described the disease so early as 1795, in his '*Appendix and Notes annexed to the third edition of Remarks on the Ophthalmy, Psorophthalmy, and Purulent Eye*' (p. 26), where he speaks of 'those rare cases, in which the cornea undergoes a change from its round figure, and assumes a conical or sugar-loaf shape'. For the cure of this, he says 'he had tried a variety of remedies—evacuation of the aqueous humour, followed by application of compresses;' but adds, that 'the cornea always resumed its projecting figure.

"It is uncertain whether the notorious John Taylor had really seen true Conical Cornea, when he designated a certain diseased condition of the part by the unmeaning term 'Ochlodes'. That the word was sonorous, and Greek, was quite sufficient to commend it to him whom Dr. Johnson cited as 'an example how far impudence could carry ignorance.'

"Burgmann's often-quoted case is curious for its absurdity; and the best explanation of it was furnished by a non-professional critic, as related in Himly's '*Diseases and Malformations of the Human Eye*' (*Krankheiten und Missbildungen*, etc., Berlin, 1843). 'The corneæ were black, as hard as horn, and hung down as far as the mouth. The learned have racked their brains to explain this phenomenon. Richter attributed it to expansion of the corneæ; Brandis, to the congestion produced by hanging; Blumenbach cites, in opposition to Brandis, a similar appearance in the eyes of a man whose head was cut off and then stuck on a pole; Heinlein thought that even in the latter case post-mortem expansion of the cornea might have occurred. The true theory of these Staphylomata is, doubtless, that of the Göttingen executioner—'the crows made them.'[1]

"CASES OF CONICAL CORNEA REGISTERED AT THE ROYAL LONDON OPHTHALMIC HOSPITAL (FORMERLY INFIRMARY), MOORFIELDS.

Year.	Patients	Cases of Con. Cornea.	Year.	Patients	Cases of Con. Cornea.
March 1805 to March 1806	600	None	,, 1827	4955	5
			,, 1828	5478	3
,, 1807	1526	——	,, 1829	5266	4
,, 1808	2126	——	,, 1830	5429	6
,, 1809	2357	——	,, 1831 to 1832	10550	10
March 1809 to Jan. 1, 1810	2179	——			
Jan. 1 to Dec. 31, 1810	2907	——	,, 1833 to 1834	10609	6
Jan. 1 to Dec. 31, 1811	2920	——	,, 1835	5154	Report not classified
			,, 1836	5016	3
,, 1812	3085	——	,, 1837	5586	Report not classified
,, 1813	3392	——			
,, 1814	3016	——	,, 1838	4874	2
,, 1815	3445	——	,, 1839	4891	2
,, 1816	3634	——	,, 1840	5355	10
,, 1817	3470	——	,, 1841	5521	5
,, 1818	3575	——	,, 1842	6086	7
,, 1819	3701	8	,, 1843	6572	None
,, 1820	3704	7	,, 1844	6874	12
,, 1821	3383	4	,, 1845	7005	4
,, 1822	3608	4	,, 1846	7010	9
,, 1823	3523	6	,, 1847	7672	5
,, 1824	3711	3	,, 1848	8382	6
,, 1825	4078	2	,, 1849	8418	2
,, 1826	4366	4			

I add the names of such patients in the annexed list, as came under my own care: 1844, I. John Cottrell, aged 34; II. Anne Child, 33; III. Catherine Richardson; IV. Henry Burgess, 24; 1845, V. Samuel Lewis, 23; 1846, VI. Wilhelmina Jackson; VII. Isabella Barnes, 27;

[1] I am entirely of this opinion, W. W. C.

VIII. Sarah Corsan, 31; IX. Maria Reeves; 1848, X. Robert Moore, 28; XI. Emma Read, 22; XII. Jane Hammond, 18; XIII. Sarah Habberfield, 27; 1849, XIV. Maria Burr, 25.

"I have found a table on the following plan useful for registering, within a small space, the chief points of interest in cases of Conical Cornea.

Name Age	Occup.	Right eye.	Left eye.	Opacity at Apex of Cone.		Age when first noticed by patient.	Reading focus in inches.		Improvement from			
									Concave glass.		Small aperture.	
				Right.	Left.		Right.	Left.	R.	L.	R.	L.
1844. J. C. 34	Paint.	Compl.	Partl.	0	0	29	0	7	0	0	7	12
1848. E. R. 22	Servt.	Compl.	Compl.	0	Dense		2	0	0	0	6	0

"Causes. The various opinions as to the changes which a cornea undergoes in becoming conical, may be classed under three heads:—protrusion, from over-secretion of aqueous humour; central thickening; central thinning.

"The first opinion, advocated by Lyall and others, is altogether hypothetical, and is disproved by the fact, which you must have constantly noticed, that in even extreme cases of conical deformity, the plane of the iris is vertical. Any pressure strong enough to push the firm cornea forwards, would surely be sufficient to thrust the yielding iris backwards; and the concave form which the iris really assumes in true inflammatory dropsy of the anterior chamber, is, as far as my own experience goes, never accompanied by any corresponding prominence of the cornea.

"No one, I believe, who has actually dissected a Conical Cornea, has found the centre thickened. Jæger, of Erlangen (not F. Jæger, the Vienna professor) has, on the contrary, described that part as being extremely thin; and his description (in Schmidt's Thesis), short as it is, is the fullest I can meet with.

"The difficulty of assigning a constitutional cause to the disease must be very great, when we consider the widely different aspects of those who are the subjects of it. A greater contrast could not be found than between No. X and No. XII in the foregoing list: the former, a pale, unhealthy-looking London workman; the latter, a fresh-coloured, robust country girl.

"The statement, advanced by Sichel—that Conical Deformity of the Cornea is *always* preceded by a central ulcer—needs to be confirmed by careful observation: but I may quote one case which seems to support this view, and is otherwise remarkable as an instance of Conical Cornea at a very early age. Priscilla Saunders, aged four years, was brought to me April 9th, 1847, with an opacity at the centre of the left cornea, the result of a small ulcer which had cicatrized. The cornea was *very slightly* conical. On February 8th, 1849, she was brought again, the sight of this eye having become very defective. I found the small cicatrix in the same state as before, but the cornea had assumed a *completely* conical form. Had I now seen the case for the first time, I might have thought that the central opacity had been the result of

friction upon the apex of the cone. The child saw perfectly with the right eye, but could not distinguish large letters with the left, although the opacity hid only a portion of the pupil.

"On the other hand, in the case of Cottrell (No. 1. *supra*), the corneal deformity was not preceded by any inflammation, and it commenced when the patient was of an age to notice and describe his symptoms. He had been fond of shooting, and always shot from the right shoulder, until he found himself becoming short-sighted with the right eye: he was then about twenty-nine, and the short-sightedness gradually increased, until he came to me with a cornea as conical as any I ever saw.

"As regards the TREATMENT of Conical Cornea, I have never found any of the astringent drops and lotions, recommended by ophthalmic writers, of any service whatever. Operative means I have always avoided. A metal plate with a small hole in it, or, what is better still, a transverse slit, fitted into a spectacle frame, has been the best mechanical contrivance I could find, and of more service than any form of concave glass. I have, however, met with two or three cases of conical deformity, seemingly uncomplicated with any other disease of the eye, in which the perforated plate and the concave glass were equally unavailing.

"The treatment I should feel least inclined to try, is that termed by its advocates 'the emeto-purgative plan,' which consists in giving the patient a scruple of sulphate of zinc, and two or three drachms of sulphate of magnesia, *daily for the space of a year or more*. It seems strange to give these substances *together;* for, if the patient is to be purged, why give him that which will cause the purgative to be vomited up? If the stomach, after a certain time, gets so accustomed to the sulphate of zinc as to retain it, the treatment becomes simply 'purgative', without the 'emeto'. How will the daily scruple of the sulphate of zinc affect the stomach, when it ceases to produce sickness? I cannot answer the question from my own experience; but I have seen a case where the system was followed, and at the end of twelve months the patient's corneæ were precisely in the same state as at first.

"*London, May 2nd,* 1850." J. D."

TREATMENT. The various modes of treatment recommended for Conical Cornea are now to be considered.

ARTIFICIAL PUPIL. The first who proposed to assist vision in this disease, by extending the pupil to one side, was the late distinguished surgeon, Mr. Tyrrell. "Within the last six years," says he, "I have succeeded in relieving such cases to a considerable extent by a plan so simple, that I am surprised that it had not been previously tried. It consists in altering the position of the pupil, and removing it from beneath the centre of the cornea, or that part which has its figure most changed, to near the margin, where the least change has occurred; the error in refraction is consequently much lessened, and the vision becomes more perfect and the focus lengthened." Mr. Tyrrell states, that he had performed this operation seven or eight times with benefit, which, in two instances, was very marked. It is to be regretted, that a more particular history is not given of the cases. Three, I succeeded in tracing. Of these, one had recovered good vision, a second derived

no ultimate benefit, while in the third the eye was lost by destructive inflammation. Thus, however encouraging the results might have at first appeared, the expectations, in two cases at least, were not destined to be realised. The experience of some authorities of eminence, with whom I have been in correspondence, is as follows. Dr. Butter, of Plymouth, states, that "we have tried to drag the pupil to one side of the centre, by making a small opening in the cornea and introducing a barbed hook, but seldom I think, with very marked success." Mr. Barton, of Didsbury, has treated this disease by various operations, viz.: "evacuating the aqueous humour frequently, by puncturing the cornea with a needle, or cataract knife; extracting the lens, enlarging the pupil at the lower margin by cutting off a piece of the iris, or strangulating it in the incision, according to the circumstances which have presented during the operation. The benefit, however, resulting from any of these operations, has never been commensurate with the risk, and many cases were rendered worse by the treatment." Mr. Neill, of Liverpool, has met with better success. "You ask me," says he, "of my means of cure. There were three cases cured by me: in one, after pursuing the system of puncturing the cornea every two or three weeks, evacuating the aqueous humour, and using pressure, the eye became flattened and vision was useful; the other two cases had each the cornea punctured and a fibre of the iris removed, an oblong pupil being thus formed at the outer and lower edge of the cornea, where it was tolerably flat, and in both these cases very good sight was gained. This practice I shall hereafter pursue, when two eyes are similarly affected, or when one is lost and Conical Cornea exists in the other. Such a case I have now under my care. The hostess of a large hotel, in opening a soda-water bottle, which burst in her hand, had one eye dreadfully torn. The other eye has a Conical Cornea. When the inflammation of the wounded eye is sufficiently removed, I will proceed to alter the form of the pupil in the other, and have no doubt that the sight, in this case also, will be rendered useful." Mr. Wilde, in his admirable Report on the Progress of Ophthalmic Surgery,[1] gives an interesting case, illustrated by a woodcut. "The only case," he says, "in which we have ever produced permanent benefit, was one in which we performed an artificial pupil, as recommended by the late Mr. Tyrrell. In this instance, the lady was scarcely able to find her way through the streets. She had consulted the principal oculists in these countries, and had undergone several courses of treatment. She had been for a long time under the care of the late Mr. Wardrop, who tapped the cornea several times. In the summer of 1842, assisted by Mr. Cusack, we performed an artificial pupil in her right eye—not as recommended by Mr. Tyrrell, by cutting out a portion of the iris, but by drawing its pupillary margin through an incision in the cornea, made close to its insertion with the sclerotic externally. This lady now reads very well by holding the book towards the right side." The late Mr. Walker, of Manchester, informed me that "in one case in which both eyes were affected to an extreme degree, I first performed the operation (as practised by Middlemore and Tyrrell) of displacing the pupil and afterwards extracting the

[1] Dublin Quarterly Journal of Medicine, vol. xxxiv, p. 491.

lens. That operation answered beautifully in one eye; but the other eye was attacked with violent inflammation, and was destroyed. I should not hesitate again to perform that operation in a suitable case. All the cases I have since seen, have been such as have only had one eye extremely affected, the other being only slightly so; and consequently I have not felt justified in recommending an operation of that magnitude and importance. The mere displacement of the pupil I do not think much of." Mr. Walker was so good as to favour me with the particulars of the case alluded to, which possesses considerable interest.

Case. Joshua B., æt. 47. His sight had begun to fail after an attack of inflammation, and during seven years had gradually become worse. In August 1841, he placed himself under the care of Mr. Walker. He could find his way about, and read moderate sized type at a distance of two inches; with the right eye, when the lids were almost closed, he could read at a greater distance, but not so with the left. A luminous body appeared to be multiplied ten or eleven times, but no chromatic aberration was observed. This multiplication of images was confined to luminous objects, and these appeared single when the eyelids were nearly closed; the point of the cone in each eye was opaque—the opacity being densest in the left. Neither concave glasses nor a pinhole improved vision. On the 25th September, 1841, Mr. Walker punctured the cornea of the left eye and removed a portion of the iris, extending the pupil to the inferior margin of the cornea; very little irritation followed, but the amendment of vision was only such as to increase the reading distance to three inches. Mr. Walker now removed the lens. Some trouble was subsequently experienced from opaque capsule blocking up the pupil, but the ultimate result was, that the patient nearly recovered the perfect sight of the eye. He could read small print at the ordinary distance, and see surrounding objects a great way off; moreover, the conicity of the cornea was almost entirely removed. Similar proceedings were adopted towards the right eye, but there followed destructive inflammation, and the eye was lost.

Dr. J. C. Hall tells me that he has "seen no good from operations, with the exception of frequently evacuating the aqueous humour, not even from dislocating the pupil"; and other correspondents have expressed themselves as adverse to the operation. Dr. Billett, of Taunton, says, "I once made an artificial pupil through the sclerotic, which enabled the patient to see a strong light, which was all that he asked for." This case, however, could not have been one of Conical Cornea, in the strict sense of the term; for in such cases the perception of light is not extinguished.

My own experience of the value of an artificial pupil extends to three cases, which I will proceed to relate. It will be seen that in one there was improvement; in the second also improvement, but very slight; whilst in the third neither the simple extension of the pupil, nor the combination with it of removal of the lens, assisted the vision of the patient.

Case I. Artificial Pupil. Arabella Thomas, aged 19, a delicate looking girl, applied to me May 5th, 1848. For many years her vision had been imperfect, especially with the left eye, which had indeed become almost useless, as she could only discern objects by hold-

ing them quite close to the outer side of the organ. The sight of the right eye, though very obscure, was better than that of the left. Luminous objects were multiplied and surrounded by belts and rays. The left cornea was very conical, the apex of the cone presenting a dimple surrounded by a nebulous haze; a magnifying glass displayed several irregularities and facets, especially on the upper part, near the apex. The right eye presented the phenomena of the disease in a less degree. On dilating the pupil with atropine, and causing her to look through a pin-hole, it was found that when the aperture was opposite to the lower and outer third of the expanded pupil, a very decided improvement in her sight took place.[1] She could then read with facility at five inches, whereas, before, she could only make out letters at two inches distance. It was then decided to extend the pupil at the point mentioned. On the 28th of May, an incision was made with a curved Scott's knife, just beneath the transverse diameter of the cornea at the outer side, and a fibre from the margin of the pupil, being drawn out with fine forceps, was snipped off. There was a little hæmorrhage into the anterior chamber, which speedily subsided under the influence of cold.

No ill consequences followed the operation; and, after the lapse of three months, the patient could read and work at the distance of four inches from that eye, and could discern features tolerably distinctly at four feet.

Case II. Artificial Pupil. Jane Robertson, aged 27, of delicate and poverty-stricken appearance, came under my notice January 11, 1848. She was a milliner, but for nine months she had been unable to work from imperfection in her vision. About eighteen months prior to her application, she first perceived a difficulty in distinguishing objects clearly with the right eye when looking directly at them, but by turning her head a little on one side they appeared clearer; at the same time she was much annoyed with muscæ volitantes, and occasionally felt an uneasiness and fulness in the eye. The sight gradually became worse, and in about six months the left eye was in like manner affected. The difficulty in discerning objects increased, until she was obliged to hold her work quite close to her eyes and to look at it obliquely. Being dependent on her needle for subsistence, she was compelled to work many hours each day, until at length she could no longer see, and was obliged to yield to her rapidly increasing blindness.

The unmistakeable sparkle of the eyes at once proclaimed the nature of the case; for, in each, Conical Cornea was well marked. The apex of the right cone was somewhat more opaque than that of the left, and each cone presented a dimpled point. She could only discern capital type by holding it at about an inch and a half from the eyes, but through a pin-hole, could see it at three inches. On dilating the pupils with atropine, there was some improvement, which decided me to attempt relief by an artificial pupil. On the 20th January, I operated on the right eye, making an incision at the outer margin of the cornea. A considerable gush of aqueous humour took place, the cone collapsed, becoming some-

[1] *Secale cornutum*, used as a snuff, has been said to cause contraction of the pupil. I have tried it in many instances of dilatation of the pupils, natural and artificial, but have not observed the effect in question.

what corrugated, and the iris fell forward. With a pair of fine forceps, the margin of the pupil was drawn out, and a few fibres snipped off. On the following day the cornea was moderately filled, and there was a decided improvement; but the reduction of the size of the cone being considered, little stress was laid on the amendment. The recovery was rapid, and the vision was certainly somewhat improved, but not sufficiently so to enable her to work, and I did not therefore think it desirable to adopt any further operative measures.

Case iii. Artificial Pupil and Destruction of the Lens. Anne Reeder, aged 17, was sent to me from the country, in September 1847. Her head was unusually long in the antero-posterior direction, as if she had suffered from hydrocephalus. The vision of her right eye had been imperfect from early youth, and had gradually become useless; the vision of the left eye was also imperfect; the eyes were remarkably deeply set, and the palpebral fissure small; the conical form of the right cornea was strongly marked, that of the left decided, but less prominent than the right; the apices of both were slightly turbid; the surface of each was smooth, and neither halos nor multiplication of images had been perceived; vision was not improved by a pin-hole, nor by any kind of lens.

On the 22nd of October I made a puncture at the inferior third of the outer side of the right cornea, and drawing out a small portion of the margin of the pupil, snipped it off. There was considerable hæmorrhage into the anterior chamber, but it yielded to the application of cold. So rapid was her recovery, that she left the Eye Infirmary on the 29th of October, with a very good artificial pupil, but without any amendment in her sight. She came in again on the 8th November, and the recovery from the previous operation was so complete, that I determined to try the effect of destroying the lens, as recommended by Mr. Walker and others. On the 10th November the lens was destroyed with a cutting needle; no unpleasant symptoms followed, and the fragments became in due time absorbed, but there was no material amendment in her sight, either then or in June 1848; since which time I have not seen her.

If artificial pupil be contemplated, it should be ascertained whether dilatation of the pupil improves the sight, and whether there is any point through which the vision is better than elsewhere. When irregularities of the surface exist, some spots are freer than others, and here the cornea is best adapted for the transmission of visual rays.

Removal of the Crystalline Lens. In reference to this operation, it must be borne in mind, that perfect vision is due to the combination of accuracy of form of the cornea and crystalline, with that beautiful arrangement of the fibres and layers of the lens, by which the rays undergo gradual refraction in their course through it, and are united in foci exactly upon the retina. The imperfection of vision in Conical Cornea, is caused less by alteration in the actual refractive power in the eye, than by the vicious manner in which refraction is performed; the alteration in figure of the cornea prevents the formation of foci at the proper points, and causes unbounded confusion in the images depicted on the sentient membrane. Though, by removal of the lens, the refraction within the eye is lessened, the harmonious bending of the rays

accomplished by the crystalline, cannot be attained, nor can the condition necessary for the formation of images be recovered. It is justly remarked by Dr. Pickford, in his able treatise, that the sphericity of the cornea, so to speak, is totally lost, saving so much of its obtuse apex as approximates to the form of the healthy cornea; and that we have no longer to treat an ellipsoid of revolution, but a plane surface, —the slant sides of the cone. Thus the alteration in the conditions for refraction anterior to the lens, is not of a nature to admit of compensation by the removal of that body.[1]

Destruction of the crystalline lens was proposed with great confidence by Sir W. Adams, as a cure for Conical Cornea. The cases which he has related are highly flattering to his skill; but, independently of the optical objections, and the formidable character of the proceeding, it has been strongly condemned by high authorities. The late Mr. Tyrrell said, "It was thought that the removal of the crystalline lens, by getting rid of that convex and highly refractive body, would afford better vision in such cases; but the practice has not in the least degree supported the theory; for it does no good." Mr. Lawrence "would not think of proposing any such operation, unless the affection had gone so far as to render the eye useless, and he would then expect no good from it. The proceeding has not been employed with advantage in any instance." Dr. Pickford is of opinion, that the removal of the lens is uncalled for, injudicious, and indefensible.

That the removal of the lens is sometimes of service, is proved by the following evidence; but my impression is, that such cases form the exception, not the rule.

In 1847, Dr. Butter, of Plymouth, wrote to me as follows: "I couched a woman, thirty years since, who had cataracts and Conical Cornea. She has seen well ever since, with or without flat (?) glasses." In a similar manner I was informed by Dr. Robertson, of Edinburgh, "I have operated in one case of cataract, conjoined with a highly Conical Cornea. The apex was irregular on its surface and slightly opaque. The patient could afterwards read the smallest print, the book being held somewhat to the side, but in looking at any object held directly in a line with the centre of the cornea, the centre of the object was scarcely visible. The glasses usually required after the removal of the lens, were, as was naturally anticipated, injurious, the conical form of the cornea compensating for the loss of the lens. The operation performed was that of reclination." When speaking of artificial pupil, I have mentioned a case related to me by the late Mr. Walker, of Manchester, in which he combined extraction of the lens with artificial pupil with success; but he particularly mentions, that the conicity of the cornea was almost entirely removed by the operation,—doubtless by the section of the cornea.[2]

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[1] The figure of the healthy cornea is an ellipsoid of revolution about the major axis, through which the curvature of all its sections is equal, and it presents in every direction an arc of 96° 55′ 20″.

[2] Mr. Estlin of Bristol thus writes: "One case occurred to me, where the lens of an eye, with Conical Cornea, was wounded by a needle, which ruptured the capsule and produced a cataract, which became absorbed by the effect of the accident which occasioned it. The loss of the lens improved the power of seeing."

Though doubting the efficacy of the proceeding, I considered it my duty, after the foregoing statements, to give the patient the benefit of the chance in two instances, and am bound to state that the result was not sufficiently encouraging to induce me to recommend the operation; unless, of course, cataract should chance to be combined with Conical Cornea, in which case it would be perfectly justifiable.

Case iv. Destruction of the Lens. Luke Gibson, carpet-weaver, æt. 23, came under my care in March 1847. Both eyes presented Conical Cornea, the right being more prominent than the left. The usual symptoms were present, and he found so much inconvenience, that he was eager for any means which afforded a chance of relief. All milder measures having failed, and there appearing to be some cloudiness in the right lens, I determined to try the effect of removing that body. The anterior operation for solution was therefore performed with a broad needle, on the 26th April. On introducing the needle, there was a considerable gush of aqueous humour, and the cone became flaccid. After completing the operation, I availed myself of the opportunity of examining the collapsed cornea, and satisfied myself that, near the apex, it was scarcely thicker than silver paper. Absorption proceeded satisfactorily, but it became necessary to repeat the operation on the 27th July, to remove some fragments of capsule which obstructed the pupil. On the 26th August the aperture was clear, but I was sorry to find that little, if any benefit, had been gained, nor were glasses of more use than before the operation. The rapidity with which the aqueous humour is secreted, was well shown in this case, for the cornea was plump and distended twenty-eight hours after the operation.

The second case, that of Anne Reeder, has been already related.

Removal of Segments of the Cornea. One case only, in which this step has been adopted, has fallen under my notice. It was communicated to me by Mr. Maling, of Sunniside, as follows: "I discharged the aqueous humour by making a section of the lower half of the cornea, and cut away a small portion of it, with a view of diminishing the anterior chamber; but the result did not answer my expectations, although the patient was certainly less myopic. The apex of the cone, after the operation, inclined downwards. I wished to operate in a similar manner on the upper portion of the cornea, but my patient would not submit."

By removing the apex of the cone somewhat to one side, especially the inner, and by combining with this treatment, the use of a fissured diaphragm, with or without a lens, benefit may probably be derived.

The *Bulletino delle Scienze Médiche*, of Bologna, for December 1839, contains the particulars of a case of Conical Cornea, treated in an unusual manner by an Italian surgeon, M. Fario. With a double-edged cataract knife, he made an incision at the outer side of the cornea, and a second, meeting the first at the point, in the form of the letter V reversed. The flap was cut off with scissors. There resulted a gap, through which the aqueous humour continually drained. The lids were closed with sticking plaster, and the patient kept in bed in a dark room for eight days, no other dressing being applied to the eye. At the expiration of that time, the lids were opened, when the breach in the cornea was found closed, and the cornea itself a little flattened. The same

operation was repeated at the lower part of the cornea with a similar result, but the flow of the aqueous humour continued longer this time, and the iris became entangled in the wound, but withdrew under the influence of belladonna. A third excision was performed at the upper and inner part of the cornea; and it is stated that the eye became flattened, and the patient cured.

The main objection to such a proceeding as that described, is the great risk of prolapse of the iris. It occurred in the present instance, and although the membrane is said to have retracted, such an event is by no means to be expected after it has been prolapsed eight or nine days; belladonna would then have but little effect in causing its retraction. Another objection is, the leucomata that would be produced by the cicatrices of the wounds. The new material formed to fill up the gaps in the cornea being fibrous instead of lamellated, and opaque instead of translucent, would leave permanent cicatrices of such a magnitude as would be unsightly, and obstructive to vision.

Puncturing the Cornea. This, as might be expected, has been resorted to in a great number of instances, but has failed to afford relief. I know of no more marked illustration of the rapidity with which the aqueous humour is secreted, than is presented under such circumstances; on the needle being introduced, the fluid spirts out freely, and the cone collapses. If the eye be examined about twenty-six hours afterwards, the cone will usually be found plump and distended: when about two-thirds filled, there is often marked improvement in the sight, but the hopes thus raised are dispelled in a few hours. Mr. Evans, of Belper, says, "I have treated about a dozen cases of Conical Cornea, I am sorry to say, without materially benefiting any of them. The treatment of my early cases consisted in evacuating the aqueous humour, in one case more than ten times, astringent lotions, etc. Latterly, I have given up all local remedies as being utterly useless in my hands, and confined the treatment to the improvement of the general health." Not more encouraging is the report of Mr. Soden, formerly of Bath. "In the course of thirty five years that I have been connected with the Bath Eye Infirmary, I think that I have not seen more than fourteen or fifteen cases of Conical Cornea. In two cases, I tried frequent evacuation of the aqueous humour, in the hope that the cornea might be somewhat flattened by the anterior chamber being emptied; but no advantage ensued, although in one instance I repeated the operation about thirty times, at intervals of two or three days. No injury, however, resulted from this treatment." I might multiply such accounts, but these examples are sufficiently confirmed, as they are most fully, by my own experience; for though evacuation of the aqueous humour is of service when combined with fluid pressure, it is absolutely useless by itself.

Pressure. M. Desmarres thus writes: "Some have tried puncture of the cornea to evacuate the aqueous humour; if, with this, they had joined a compression, methodical, immediate and long-continued, as we daily use with opaque staphyloma, and as we have practised with great advantage in two cases of transparent staphyloma, such means would, perhaps, have been attended with the best results.[1] Puncture of the cornea, followed by direct compression, appears to me the best means

[1] Desmarres, L. A. Traité Théorique et Pratique des Maladies des Yeux,

known for the treatment of this disease, but the compression should be light, exactly made, and long continued." The correct principle is embodied in these views of M. Desmarres. Strong pressure by a solid body is injurious. It is support, rather than actual compression, which is needed. The thin and weakened cornea, unable to resist the pressure from behind, has been projected into a cone, and is incapable of recovering itself unless relieved from that pressure. Evacuation of the aqueous humour affords merely temporary relief, for the membrane is speedily again distended. John Hunter thus wrote: "We find very different effects from the same quantity of pressure; for when from without, pressure rather stimulates than irritates, it shall give strength, and produce an increase of thickening; but when from within, the same quantity of pressure will produce waste, for the first effect of pressure from without, is the disposition to thicken, which is rather an operation of strength; but if it exceeds the stimulus of thickening, then the pressure becomes an irritator, and the power appears to give way to it, and absorption of the parts pressed takes place."[1] It may be doubted whether this doctrine is altogether correct; for, as pointed out by Professor Paget, the results of pressure, whether from within or from without, appear to depend on its constancy or occasional application. In Conical Cornea, the pressure should be constant, but not limited to the apex of the cone, or it will excite irritation; it should be so managed as to afford firm support to the whole cornea, thus counteracting the force of the muscles of the globe, removing the tension from the weakened membrane, and placing it in the most favourable condition for restoration to its natural thickness and figure.

Fluid pressure alone can perform this satisfactorily, for if this be properly applied, every part is equally supported, and the support is maintained under all circumstances, movements, and positions. I endeavoured to carry out these principles in the following manner. An apparatus was constructed, consisting of an air-cushion of fine membrane, fitted to the orbit and acted on by a spring which passed half round the head, the point of counter-pressure being the occiput. The spring was of just sufficient strength to cause as much pressure on the eye as could be borne without inconvenience, and it was supplied with an adjustment to increase or diminish the force. Anterior support being thus provided, the pressure from behind the cornea was removed by letting out the aqueous humour. Immediately on its ceasing to flow, the apparatus was applied. Could the air-cushion have been made impervious to moisture, and perfectly air-tight, the improvement which took place in one case, after three weeks' trial, leads me to believe that much benefit would have been derived, but, unfortunately, the cushion invariably collapsed after a few days' wear. Vulcanized india-rubber, or some form of gutta percha, may, perhaps, answer better, but no description of animal membrane is adapted for the purpose. I ascertained, however, that the pad could be worn immediately after the cornea had been punctured, without exciting the least pain or irritation. If a perfect cushion can be obtained, its use should be persevered in for at least two months, the cornea being punctured from time to time. With this treatment, careful attention should be paid to the general health, strength and tone being imparted

[1] HUNTER'S Works. Edited by James F. Palmer. London: 1837. Vol. iii, p. 466.

if needed, and congestion abated if it appear to exist. The various preparations of iron with aloes and myrrh, and the carbonate of manganese (of which I can speak favourably), are indicated in the first of these conditions. Counter-irritation by blisters and rubefacient liniments, is best calculated to remove the second.

Emeto-Purgative Treatment. This practice was introduced by Dr. Pickford, and advocated by him in a work of remarkable ability.[1] The principles which have guided him are thus laid down. "I believe Conical Cornea to depend upon some disturbance in the functions of the great sympathetic, spinal nerves, and par vagum, producing, through the medium of the lenticular ganglia and fifth pair of nerves, faulty action of the nutrient capillaries and absorbent vessels of the cornea itself. Emetics and purgatives, by the powerful influence which they induce upon the gastric associate and consensual nerves, restore the healthy functions of the weakened nutrient and absorbent vessels, the result of which is a slow but progressive retraction of the diseased corneal growth, and a consequent restoration of vision." The medicines recommended, are a scruple of sulphate of zinc combined with half an ounce of sulphate of magnesia, to be taken every morning, or less frequently according to circumstances. Besides the cases recorded in the work, I am indebted to Dr. Pickford for the results of his further experience to 1848. "Since the publication of my paper on Conical Cornea, I have had many opportunities of treating the disease. The result, so far as the treatment has gone, has been most satisfactory, but I shall not attempt to conceal the fact, that patients become exceedingly tired of so disagreeable and so lengthened a remedy, and are disposed after a time to intermit it. When this has been the case, I have invariably observed an increased prolongation of the corneal cone, or an increased opacity of its apex. To say the least of it, my remedy has the power, when taken ever so irregularly, of keeping the disease in check, or of arresting it altogether. The late Mr. John Scott told me that he had successfully adopted my plan of treatment. In no instance have any ill effects followed the lengthened use of the emetics; on the contrary, the general health and strength have invariably improved. I have now a young woman under treatment, in whom I tried the nauseating effect of the remedy merely, short of vomiting; but under this modification the disease increased, and at her earnest solicitation the full effect of the medicine was again resorted to."

In two instances in which I attempted to give the emeto-purgative treatment a fair trial, the patients were of opinion that the remedy was worse than the disease, and neither argument nor persuasion could induce them to follow it up for a sufficient length of time to enable me to judge of its real merits. It will be seen that Mr. Dixon has formed a strong opinion on the subject.

Local Applications.[2] These comprise two classes, simple astrin-

[1] Pickford, J., M.D. On Conical Cornea. Dublin: 1844.

[2] Just before going to press, an opportunity was afforded me of perusing the paper by M. Sichel, in the second supplement of the *Annales d'Oculistique*. M. Sichel is of opinion, that Conical Cornea is invariably the result of ulceration, which weakens the cornea; and in proof of this, he asserts that a small cicatrix is *constantly* to be found at the apex of the cone. This is at variance with the experience of

gents and escharotics. With very rare exceptions, little or no benefit has resulted from such remedies; every known combination seems to have been tried and to have failed. The most favourable reports are those of Mr. Ware, Mr. Gibson, Mr. Lyall, and Mr. Gervis. Mr. Ware states: "In some instances I have punctured the cornea and evacuated the aqueous humour, after which, by the application of thick compresses to the outside of the eyelids, I have endeavoured to counteract the morbid propensity: but, when this humour has been regenerated, which usually takes place in a short space of time, the cornea has always resumed its projecting figure. The greatest relief I have hitherto given, has been by the application of a few drops of strong infusion of tobacco; by a perseverance in the use of this remedy, three or four times every day, the conical appearance of the eye has in a few instances been diminished and the patient's sight greatly mended."[1] Mr. Gibson, of Manchester, used collyria of alum and oak in four cases, and in these no increase took place; one patient, indeed, thought his vision was improved. As, however, the disease often comes to a standstill after having arrived at a certain point, but little stress can be laid upon the influence of the treatment in these cases.

A curious case is related by Mr. Lyall. A young woman suffering from Conical Cornea in both eyes, was suddenly attacked with severe headache, great pain in the left eye, and a copious discharge of scalding tears. The apex of the cone became quite opaque in two days; shortly after, Mr. Lyall applied nitrate of silver, when violent action was excited and the opacity partly disappeared. Mr. Lyall then punctured the cornea several times, and used strong astringent collyria, the result being diminution in the size of the cone and decrease in the opacity; but (it is important to remark), the vision was not improved.

Mr. Gervis, of Tiverton, has been fortunate in his management of this disease. A young woman at 25, had suffered for two years from Conical Cornea in the right eye, and has been under medical treatment for a year and a half. Mercury had been exhibited freely, and had produced much debility. The plan adopted by Mr. Gervis was continued counter-irritation by means of blisters, full doses of carbonate of iron for two months, compound galbanum pill, and liberal diet. The cornea was several times punctured, and the cone swept with nitrate of silver thrice a week. Some opacity of the projection resulted,

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Mr. Dalrymple, Mr. Dixon, and myself. We have each repeatedly seen instances of Conical Cornea, in which no opacity whatever existed.

The treatment recommended by M. Sichel, to give solidity to the weakened membrane, is as follows. The projection is to be touched once or twice a day with *vinum opii*, and the lids being immediately closed, are to be bathed with cold water. Subsequently there may be used with this, an ointment of red or white precipitate, ten or twenty grammes to two grammes of lard. Every two or three days, if the eye will bear it, a pencil of nitrate of silver is to be swept lightly over the opacity, especially the summit of the cone, but not over the sides. The surface having been wiped with fine rag, a little cerate is to be applied. These cauterizations may be continued during one or two months, being suspended from time to time, if necessary. Should the progress of cure be slow, and the cone large, puncturing and compression may be employed, the one alternating with the other, and with the cauterization. Measures for the improvement of the general health should be combined with this treatment. We are not aware that this practice has found favour on this side of the Channel, nor can we speak from experience of its efficacy.

[1] Ware, Jas. Chirurgical Observations Relative to the Eye, vol. ii, p. 77. 1805.

and the unguentum hydrargyri nitrico-oxydi was applied daily to the eyelid. At the expiration of three months, the cornea had recovered its natural shape, and the sight was completely restored. In another instance similar treatment, in combination with emeto-purgatives, rendered much service. To the judicious combination of general treatment, with local remedies, must the happy result of these cases be ascribed, rather than to the predominating influence of any application in particular.

It occasionally happens that the apex of the cone will become opaque in cases of old standing, from some slight exciting cause quite independent of friction of the lid. Such attacks are amenable to treatment, and it is important that the opacity should be speedily removed. The following case, for which I am indebted to my friend Mr. Dalrymple, is a good illustration of these attacks, and the means by which they are to be arrested.

Case v. Opacity removed by Lotions of Acetate of Zinc, and Iron internally. A lady, aged 35, consulted Mr. Dalrymple on 18th March, 1850. She had suffered from Conical Cornea for twelve or fifteen years, and some years ago consulted many eminent men without relief. Until lately she had been able to read with either eye, at two inches focal distance. The cone was strongly developed in the right eye, but perfectly transparent. The left cornea was still more sharply conical, and until within three weeks of the above date, was also clear. She supposes that she caught cold during the recent severe weather, for, without any redness of the eye, opacity supervened, invading the apex of the cone of the left eye; she had been in the habit of reading over much, her health was feeble, and circulation languid. A doubtful prognosis was given as to the probability of the opacity becoming absorbed, but she was recommended to take 10 drops of the tinct. ferri sesquichl. thrice a day, with aloes and myrrh, and to frequently drop into the eye a collyrium, containing one grain of acetate of zinc to an ounce of distilled water. Twelve days afterwards, she reported by letter, that the opacity had disappeared, and that she had begun to see as well as before the attack.

Nitrate of Silver and Tincture of Iodine to the Eyelids. Mr. Smith, of Southam, speaks favourably of this description of counter-irritation: "In two cases," says he, "I have given considerable satisfaction by the application of argenti nitras, on the external surface of the upper lids, and so keeping up a little scaly eruption or desquamation of the skin: one girl found great relief, having suffered from the complaint for two years." In two cases in which the disease was clearly connected with struma, and was accompanied with intolerance of light, I made trial of the daily application of the tincture of iodine to the lids with decided benefit to the photophobia. It may be remarked, that this remedy is of great value in ordinary strumous ophthalmia.

Hydrocyanic Acid Vapour. To this I gave a full trial in several cases. The only effect was diminution in the opacity when such existed.

Electro-Magnetism. No visible change followed the use of this agent, though persevered in for several weeks.

Optical Apparatus. The ingenuity of opticians has been severely taxed, to endeavour to remedy the defective sight in Conical Cornea, by artificial means. It being found that in some cases vision was improved when looking through a pin-hole, various forms of apparatus have been

constructed on this principle. Mr. Travers has recommended a frame of black wood, half or a quarter of an inch in depth, having a small aperture; opake diaphragms have been varied in form, and pierced with a fine slit in the centre, or removed somewhat to the side. In several instances, I have seen decided benefit from the use of such an apparatus, either singly or combined with lenses. The diaphragm should be a thin plate of horn or metal, fixed in a spectacle frame. No precise rule can be laid down as to the size, direction, or position of the aperture, for there are scarcely two cases precisely alike, and each requires to be carefully tested with apertures of various forms and dimensions. Such an instrument improves vision by limiting the number of rays impinging on the cornea, and thereby lessening the confusion of foci in the interior of the eye. When neither the diaphragm nor a lens separately succeed, the two together will sometimes prove effectual. The number 11 double concave, fixed to a diaphragm pierced with a narrow slit, will occasionally render valuable assistance, but the power of the lens and the size of the slit are quite matters of experiment. In one instance, and only one within my knowledge, did a double convex glass answer better than the concave; on its being fixed to the diaphragm the patient and optician were alike surprised at the great improvement which it caused in a very bad case.[1]

Sir John Herschell has suggested the adaptation to the eye of a lens of nearly the same refractive power as it, and having the surface, next the eye, an exact intaglio fac simile of the irregular cornea. Should, says he, "any very bad cases of irregular cornea be found, it is worthy of consideration whether at least a temporary distinct vision could not be procured, by applying in contact with the surface of the eye, some transparent animal jelly contained in a spherical capsule of glass; or whether an actual mould of the cornea might not be taken and impressed on some transparent medium. The operation would be delicate, but certainly less so than that of cutting open a living eye and taking out its contents."[2] This proceeding seems to me more simple in theory, than easy of practice.

Lenses ground to different forms have been tried with more or less success. Dr. Hull states that in a very bad case, much benefit resulted from the use of an instrument, formed of two lenses, with an adjustment; the lens nearest the eye being small and doubly concave, the other large and convex.

Could but the rays of light (as Dr. Pickford justly remarks), reach the lens, with accustomed regularity of convergence, all would be well; a deep double concave glass, by occasioning a prior divergence, would remedy the defect of vision; but could they do this, one of the very peculiarities of the disease itself would vanish and cease to exist. Besides this difficulty, there is another; namely, that though a correct shaped lens might be obtained, it would not answer unless placed at the exact distance from the eye that is required; and always retain the same relative position. Should a person be desirous of really deriving benefit from lenses he might proceed thus: First, let him try a plano-

[1] Mr. Hawes, 79, Leadenhall-street, has had much experience in the manufacture of diaphragms, etc., for Conical Cornea.

[2] Article, "Light", *Encyclopædia Metropolitana.*

convex lens, the concavity being about equal to the convexity of the cornea, taking care that the curve is as nearly parallel to the curve of the cornea as possible, when placed at the most suitable distance from the eye. It is obvious that every distance has its peculiar curve—the greater the distance, the less the curvature, as it is in concentric circles. If that form should not be satisfactory, he might then try, instead of a plano-convex, a convexo-concave, and afterwards a double concave, only taking care that the two concaves partook of the form of the curve of the cornea; that is, both the inner and the outer curves should be similar in form to that of the cornea, but of less curvature; or, in other words, instead of being portions of spheres as is usual in lenses, the curves should be portions of parabolas or hyperbolas as the case may be, varying the amount according to the distance of the lens from the eye, and according to the form of the Conical Cornea.

It will be seen by this survey of the various modes of treatment, that there is not one which offers more than *prospects* of success. Patients have rarely determination sufficient to carry them through the discomforts of the emeto-purgative course; and although the operations of artificial pupil and destruction of the lens have each their advocates, the amount of success which appears on impartial examination is not sufficient to counterbalance the formidable nature of either proceeding, or to justify their employment unless as a *dernier ressort*. On the whole, I place most trust in the combination of puncturing with fluid pressure, judicious attention being at the same time paid to the general health, It has at least the recommendation of simplicity, and if unsuccessful, the patient is not left in a worse condition than before. Prior to any operative measures, all the points of the case should be fully considered, and it is proper to ascertain whether the vision be assisted by the limited aperture or by the use of belladonna. A card blackened with ink and pierced with a large pin, makes an excellent experimental diaphragm; and the most elegant preparation for dilating the pupil, is a solution of from two to four grains of the neutral sulphate of atropine in an ounce of distilled water.

19, Berkeley Square, March 1850.

Note. To the following gentlemen, my cordial thanks are rendered for the valuable information which has formed the groundwork of this paper. Dr. F. Jaeger, Vienna; M. Sichel, Paris; Sir John Richardson, Mr. Dalrymple; Mr. James Dixon; Mr. Ranald Martin; Sir John Fife; Mr. H. L. Smith, Southam; Dr. Butter, Plymouth; Dr. Billet, Taunton; Professor Andrew Anderson, Glasgow; Dr. Mackenzie, Glasgow; Dr. Cadenhead, Aberdeen; Dr. Keith, Aberdeen; Dr. Pickford, Brighton; Dr. J. C. Hall, East Retford; Mr. Square, Plymouth; Mr. W. Walker, Edinburgh; Mr. Gervis, Tiverton; Mr. Isbell, Stonehouse; Mr. Soden, Sunbury; Mr. Evans, Belper; Mr. Mould, Plymouth; Mr. Neill, Liverpool; Mr. Estlin, Bristol; Mr. Barnes, Exeter; Mr. Delagarde, Exeter; Mr. Cleobury, Oxford; Mr. Maling, Sunniside; Mr. Braithwaite, Leeds; Mr. Greenhow, Newcastle; Mr. Barton, Didbury; Dr. J. A. Robertson, Edinburgh; Mr. Percival, 1st Life Guards; Mr. Ryland, Birmingham; and Mr. W. R. Wilde, Dublin.

ON THE HEALTH OF LONDON, DURING THE SIX MONTHS TERMINATING MARCH 30th, 1850.

By JOHN WEBSTER, M.D., F.R.S., Consulting Physician to the St. George and St. James's Dispensary.

[*Read before the Westminster Medical Society, April* 13, 1850.]

Believing that some observations on the Health of London, during the last six months, in continuation of those which were previously brought before the Westminster Medical Society,[1] may be interesting, I have prepared this paper. During the period from the 29th September, 1849, to the 30th March, 1850, the health of the metropolis has been, on the whole, very satisfactory. The number of deaths from all causes has been below the ordinary average, and less than those which occurred during the corresponding months of the years 1848-49; the mortality for the last-named period having amounted to 30,160, and that for the corresponding six months just ended being 26,096. The latter season thus exhibits a diminution of 4,064 deaths, or about 13½ per cent. In the first three months of the current year, 2,219 fewer deaths have occurred in London, than during the same quarter of 1849. This favourable aspect of the public health has been due both to various causes to which I shall hereafter refer, but chiefly to the diminished mortality of several diseases which were very prevalent and fatal during the years 1848-49.

Diseases which have Exhibited a Diminished Rate of Mortality. Scarlatina, which carried off 2,541 individuals during the two quarters ending the 31st March 1849, proved fatal to only 685 patients in the corresponding months of the recent season; being a decrease of 1,856 deaths. Typhus has exhibited a mortality of 962 in place of 1,582; being a diminution of 620 deaths. Small-pox has likewise proved much less fatal than previously; only 194 persons having died from it in the two quarters just ended, instead of 641 during the parallel six months of 1848-49; being a decrease of 447, or more than two-thirds.

Cholera was very fatal during last summer and autumn, and did not subside till towards the close of 1849; 494 persons having died in London from it during the fourth quarter of that year; while, in the corresponding three months of 1848, the deaths, from the same cause, were only 26 fewer. But during the first quarter of the current year, the contrast has been marked, and highly satisfactory; not more than eight persons having died of cholera since the 1st of last January, instead of 516 during the first three months of 1849. The fact now stated is highly important, and may, I hope, be taken as an indication that cholera will not prove so epidemic and pestilential during next summer and autumn, as it was last year.

Influenza, which, in the six winter and spring months of 1847-48, carried off 1,739 persons, proved fatal to only 77 in the same period of 1848-49, and to 87 in 1849-50. Hence this malady, which prevailed almost like a pestilence two years ago, has since been a comparatively mild complaint.

[1] London Journal of Medicine for 1849, pp. 992 and 1063.

Diseases of the chest, including phthisis, which always prove so common and fatal during cold and inclement weather in this climate, have lately been less so, especially during the last quarter; 4,428 persons having died from diseases of the respiratory organs, instead of 4616 during the corresponding three months of 1849; being a difference of 188 deaths.

Diseases of the brain and nervous system, which are also usually prevalent and fatal, have shown a comparative diminution; 3,092 persons having died of these affections within the last six months, being 60 fewer than the number of deaths (3,152) which occurred in the corresponding period of 1848-49.

Hooping-cough has proved fatal in 715 cases; being a decrease of 652 cases upon the number (1,377) registered in the corresponding period of last year, or nearly one half.

The diseases of the puerperal state exhibit a smaller mortality than in the two corresponding quarters ending 30th March 1849. During the last-named period, 339 females are reported to have died from these causes; whereas, during the six months just terminated, the number of deaths from the same diseases has been only 242; being a decrease of 97, or of upwards of one-fourth. This fact seems worth mentioning, as the danger attending parturition sometimes becomes much augmented, in a town population; and especially in lying-in institutions, where terrible epidemics have so often prevailed.

Diseases which have exhibited an Increased Rate of Mortality. Notwithstanding the general salubrity of London, and the aggregate diminution of deaths from all causes, some of the ordinary diseases have exhibited an opposite feature.

Measles have proved more fatal in the last six months, than during the corresponding period of 1848-49; 641 persons—chiefly infants and children, having died lately from that complaint, as compared with 391, during the winter and spring of 1848-49. There has thus been an excess of 250 deaths from measles in the six months just past.

Diarrhœa and dysentery have exhibited very little difference, although there has recently been a slight increase in the number of deaths from these causes. During the last six months, 811 persons have died of these maladies, the number for last year being 775, or 36 fewer deaths than recently.

Diseases exhibiting an Uniform Rate of Mortality. Diseases of the heart and blood-vessels, during the two quarters ending 30th March 1849, were fatal in 1,002 cases; while the deaths from these causes, during the corresponding period of 1849-50, have amounted to 1010. The rate of mortality of these complaints may then be said to have been almost identical during both periods.

One case of hydrophobia has recently occurred in London. Formerly, this intractable disease was more frequent than of late years; and it appears, from the early Reports of the Registrar-General, that twelve persons died from it in the year 1838. Subsequently, up to 1847, from one to four individuals are reported to have been its victims each year. Since that period, the disease has happily proved fatal in only two instances; one in January 1848, and the second in February of the

present year, Both patients were young. The most recent case was a girl aged 4, who is stated to have been bitten by a rabid dog a hundred and one days previously, as appeared from the evidence given at the inquest, when it was stated, that the patient was bitten on the 15th of November 1849, and died on the 24th of the following February; hence the poison must have remained latent in the system much longer than is commonly supposed. This fact is interesting, and seems to show, that a patient must not be considered wholly free from the supervention of canine madness, although forty days may have elapsed since the infliction of the bite of a rabid animal.

The recollection of the former frequency of hydrophobia, which, indeed, seems to have been at one time so common, that the weekly average of deaths from this cause was stated to be much higher than at present, renders its diminution the more gratifying. This disease has always baffled the skill of medical practitioners, notwithstanding the vaunted reports occasionally put forth in some countries, that a cure had actually been discovered. It would be of much benefit, if these assertions were realized; and whether the specific come from a remote province of Russia, or the more distant wilds of Abyssinia, humanity must rejoice at such a discovery. But until we have better evidence than mere assertion, we can only trust to immediate excision of the wounded part, and the subsequent application of cupping-glasses: by these measures alone, which should be used whenever any suspicion exists, the safety of an individual bitten by a rabid dog can be guaranteed.

The present rarity of hydrophobia is mainly to be attributed to the operation of the Act of Parliament, brought in by Mr. Fox Maule; whereby dogs are not now allowed to draw any vehicle in London. One of the reasons assigned for passing the above-mentioned judicious measure was, that the canine race, when employed in drawing vehicles, particularly in hot dry weather, often get so excited as to become rabid, and then to communicate the disease, not only to other dogs and animals, but also to man. Since the prohibition became law, hydrophobia has almost disappeared from London, or, at least, is a very rare disease; and this happy result is, I think, so much owing to Mr. Maule's exertions, that it would be desirable to make the measure general throughout the whole empire—for the malady prevails elsewhere more frequently than in the metropolis, to which alone, the Act now referred to applies.

Hydrophobia is still a prevalent disease in many parts of Europe, especially throughout the northern provinces of the continent. For instance, in Prussia, this dreadful malady annually causes the death of 70 or 75 persons: as is shown by the fact, that during fifteen years ending 1834, according to the Government Mortality Tables, 527 males and 546 females, making a total of 1,073 individuals, fell victims to hydrophobia. Having resided some time in Berlin, and made inquiry on the subject, I can testify to the prevalence of this affection in the Prussian states. It is also worthy of remark, that the medical practitioners, resident in those districts, ascribe the frequency of canine rabies to the number of famished and sometimes rabid wolves, which come from the forests and deserts of Poland during severe weather, in search of food; when they bite domestic dogs, and thus give rise to the propagation of hydrophobia among the inhabitants.

Mortality among Children. It appears that, of the 13,219 deaths from all causes, registered during the first quarter of the current year, 5,484, or about 41½ per cent., occurred in persons under fifteen years of age. Having already alluded to several of the diseases which usually prove fatal, especially to children, as scarlatina, measles, and pertussis, it would be superfluous to notice them again. Hydrocephalus and convulsions, however, demand some attention. Convulsions are reported to have been the cause of death in 482 persons during the past quarter, only three of whom had reached the age of fifteen. From hydrocephalus, 370 individuals, of whom only three had attained the age of puberty, have died during the quarter just ended. These facts are interesting and instructive, as they unequivocally demonstrate that these two diseases are almost exclusively confined to infancy and childhood. The danger attending them seems to bear a direct ratio to the youth of the patient; and the prognosis will be most unfavourable in infants, or in those of tender years and feeble constitutions. The large number of children who annually lose their lives from accidents is deserving of notice. Not fewer than 79 young persons under fifteen years of age have died from burns and scalds during the last three months.

Privation of breast-milk proved fatal to forty infants. This circumstance is most significant; and when it is also known, that during the years 1848 and 1849, no fewer than 347 infants died from a similar privation, the statement now made deserves serious consideration. This large mortality is, without doubt, chiefly owing to the practice, so prevalent among many of the middle and upper classes, of employing wet-nurses to suckle their infants, instead of following the dictates of nature, which enjoins each mother to feed and nourish her own offspring. Further, as the milk of a recently delivered woman is more serous than afterwards, it is more fit for her new-born infant, than that of another female who has been nursing for a longer period. Moreover, the human milk progressively becomes more nutritious, and is better adapted to support and strengthen the growing infant. It should also be remembered, that the child of the person employed to act as wet-nurse, being frequently fed by hand, and very generally neglected, if not starved, often falls a sacrifice. All circumstances being considered, it may be emphatically said, that, excepting in cases where the mother is unable to afford sufficient or proper nourishment to her own offspring, the custom of employing wet-nurses should be discountenanced, not only on physical, but on moral grounds.[1] It is no answer to assert that parents, especially

[1] The practice of employing wet-nurses is not only contrary to the laws of nature, and of an injurious tendency both to mother and child, but also holds out a premium to immorality. Hired nurses are liberally paid for their services, always well fed, and often luxuriously pampered in a manner quite at variance with their previous position: hence, especially if unmarried, they are tempted to again become qualified for obtaining a similar situation. That this is not an overdrawn picture, may be proved from the experience of medical practitioners. It is also astonishing to observe the encouragement which this demoralizing custom receives from persons who are frequently most charitable, and otherwise desirous of improving the condition, both moral and religious, of the lower orders. If the subject were carefully considered in all its bearings, much beneficial alteration would be accomplished. Antiquity might, perhaps, be cited in favour of wet-nursing; but it should be remembered that the custom was, even then, strongly condemned. Thus, Tacitus complains of the degeneracy of the Roman matrons, who too frequently entrusted

in the fashionable world, are unable to suckle their infants, and frequent society at the same time. Most assuredly these are incompatible: but this only strengthens the argument against wet-nursing, as mothers employed in suckling their own children, could not frequent hot rooms, mix in crowded assemblies, keep late hours, or join in any species of dissipation. They would have to remain more at home, to take care of their own health and of that of their infants; which would greatly conduce to the benefit of all parties.

The great mortality among children, from all diseases, demands most serious attention. If the chief causes can be pointed out, which produce such a disastrous influence, a great step will then be made towards their mitigation. Unquestionably, improper feeding, defective clothing, and exposure to the vicissitudes of weather, in this variable, though otherwise healthy climate, materially contribute to the production of disease, and to the consequent augmentation of mortality, amongst infants and children, even in the wealthy classes, or those in comfortable circumstances; but still more so among the poor and dissolute. Hygienic measures, and judicious medical treatment, greatly diminish the mortality among all classes, but especially in infants and children; whilst greater attention to the clothing and diet of children would certainly give a more favourable aspect to the mortuary tables of London.

Mortality among the Pauper Population. A few general remarks may now be made upon the large mortality among the inmates of hospitals, workhouses, and prisons, nearly one-fifth of the whole deaths having taken place in these establishments. Thus, of the whole 13,219 deaths during January, February, and March of the present year, 2,353, or 17¾ per cent. were individuals supported, or at least medically treated by the public, or by unpaid medical officers. The number now mentioned does not comprise the deaths among dispensary patients, out-door parish paupers, or the numerous persons frequently attended gratuitously by medical practitioners. At least one-third of the deaths recorded were of this description.

Influences which have contributed to the Improvement of the Public Health. The chief features characterizing the sanitary condition of London during the last six months, show that the public health has been, on the whole, satisfactory, as compared with the corresponding period of 1848-49; and more especially so, if contrasted with the six summer and autumn months immediately preceding, viz., from the 1st of April to the 30th September 1849. During the later period, the mortality was enormously augmented by the great prevalence of cholera and diarrhœa, 40,117 persons having died from all causes during this period, and only 26,096 in the more recent period. But the difference appears

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the care of their infants to Grecian girls, or other inferior domestics. Pliny notices the advantages attendant on the nursing of children by their own parents; and other authorities, both ancient and modern, might be quoted. Van Swieten also informs us, that one of the queens of France, who suckled her own infant, having ascertained that a lady of the court had surreptitiously given the royal child her breast, was so much offended on hearing of the fact, as to excite vomiting by introducing her finger into the infant's mouth, being unwilling that her son should receive any nourishment but from herself.

even more extraordinary, when the three months of July, August, and September of last year, are compared with October, November, and December. In the former period, the total deaths from all diseases were 27,109, but in the latter they decreased to 12,877, being a diminution of more than half, or 54 per cent. Cholera and diarrhœa continued to prevail throughout October and November of last year, though in a rapidly decreasing ratio, so that 976 individuals died of these diseases during the entire quarter; nevertheless, this period, and the first three months of the current year, have proved, as formerly stated, more healthy than the corresponding period for several previous years.

The chief influences which have contributed to produce this favourable result are—1. The improved physical condition of the population: 2. The abundance of good and cheap provisions: 3. The less variable, and hence more salubrious, condition of the atmosphere: 4. The increased attention recently given to sanitary measures: 5. The greater care paid by individuals to their own health, in consequence of the alarm experienced during the previous pestilence: and, 6. The removal, by the recent epidemic, of a large number of the debilitated, dissipated, and diseased portion of the population, so that there remained less *pabulum morbi* as compared with former years; while the survivors were also better able to resist the inroads of disease.

Most of the circumstances above alluded to, as influencing public health, are so obvious, as to require little or no comment. Although much has been recently said respecting sanitary measures, and a few judicious improvements have been commenced, very little advance in the right direction has as yet been made. As I have previously adverted to this subject, and shewn its importance, it is unnecessary for me to repeat my arguments; but I would now again assert as strenuously as formerly, that all nuisances, whether public or private, must be abated. Vested rights, and individual interests, must yield to the health of communities. On this point, *salus reipublicæ est suprema lex;* and, as on such question there can be no mistake, there ought assuredly to be no compromise.

The removal of food for disease by the cholera epidemic of last year, and its consequent influence in producing a diminished rate of mortality, is analogous to what has been formerly experienced. Similar results followed the disappearance of influenza, which prevailed so severely during the winter of 1847-48. In the quarter ending June 30, 1848, the number of deaths was 3,510 fewer than in the preceding three months. Again, after the cessation of scarlatina, which was unusually prevalent and fatal during the winter of 1848-49, the aggregate mortality decreased; the deaths from all causes registered in the quarter ending June 30, 1849, being 2,422 fewer than those in the three months ending 31st March. Hence, it may be generally predicted, with some confidence, that whenever any epidemic malady prevails, and removes numbers of the population, the subsequent season or year will probably be more healthy, and fewer deaths will occur than under other circumstances. This arises much from the removal by the previous epidemic of the subjects most liable to disease; but there may be also other evident causes in operation, although it is often impossible to point out, and

still less to define precisely, the association of every influence, however consistent the results may seem with general experience.

Excess of Births over Deaths. The remarkable excess of Births over Deaths, which has taken place in London during the last two quarters, is worthy of notice; particularly as history informs us, that increased fecundity is the ordinary sequence of a pestilence. In the first three months of the above period, 4819 more persons were born than died in London; and during the second quarter, the excess was 5,428, thus making a total of 10,237 more births than deaths in six months. And if to that number we add the 4,067 fewer deaths registered during that period, as compared with the corresponding six months of 1848-49, the vacuum made by the cholera will be found already fully filled up; the excess of deaths during July, August, and September 1849, as compared with the same months of 1848, amounting to 13,606, having been replaced by 14,304 persons—10,237 more births and 4,067 fewer deaths. In fact, excluding immigrants from the provinces, who may be set off against emigrants to the colonies or elsewhere, there are 698 more human beings now resident in London than after the devastating disease of last autumn. This fact is highly consolatory, and tends to shew the compensating power of the laws of nature, at the same time that it indicates the power and care of our beneficent Creator.

Atmospheric Influence. In describing the peculiar weather prevalent during the most unhealthy period of last summer, I especially directed attention to the oppressive and ungenial feeling produced by the London atmosphere; which was then hazy, and, at times, appeared like a thick mist, the air being, at the same time, generally very dry. Scarcely any wind prevailed; and when it did, it was often south-west or southerly, with diverging currents. But the most remarkable phenomenon observed at that season, in reference to the atmosphere, was the frequent and daily very extensive fluctuations exhibited by the thermometer; the lowest temperature of the month of August, when so many deaths occurred by cholera, being 42, the highest 82; thus making a difference of 40 degrees. In some nights, there was even so great an alteration as 30 degrees between the warmth of the night and day time. These interesting and instructive facts are again mentioned, in order to illustrate the influence which the weather and peculiar state of the atmosphere then exerted upon public health, during the prevalence of cholera and diarrhœa; and, as many of the atmospheric phenomena have been of quite a different character, throughout the three months ending the 30th of March in the present year, when London has otherwise proved healthy, it becomes more important to notice the principal features exhibited recently, as they evidently influenced the improved sanitary state of the metropolis. During the last three months, when 2,219 fewer deaths have been registered than in the corresponding quarter of the previous year, the temperature, although low, has neither been very cold, nor subject to great fluctuations. The range of the thermometer has proved unusually small, especially throughout the first half of the quarter, never having exceeded 20 degrees in one day; and very frequently, the difference between the temperature of the day and night time was much less, being often only four or five degrees,

sometimes from seven to nine, or up to thirteen degrees. Towards the end of the quarter, but especially during the latter part of March, the variation of temperature, between the day and night time, became much greater than previously : the extent being then frequently twenty-two degrees, occasionally twenty-three; and on one night, the variation reached twenty-four degrees, which proved the most extensive range of the thermometer remarked in one day, during the whole quarter.

Throughout the entire three months, the lowest point observed was 22°, on the 8th January, the mean temperature of the week being then 30·3°; whilst the highest elevation registered was 58°, on the 2nd of February, when the average heat of the week was 41·8 degrees. Again, during the whole quarter, although cold, the weather was not inclement, the sky being generally cloudy or overcast. The wind, in the early part was often south-west or southerly. Electricity was positive; there was moderate rain and snow occasionally. About the middle of the quarter much rain fell, and in the sixth week the wind was always south-west, at first very stormy, the sky overcast, and electricity absent. This was also the case during the seventh week, the weather being then very rainy and cloudy, whilst the wind was still south-west.

The range of the barometer should be likewise noticed, in conjunction with other phenomena, as its elevation or depression always exerts considerable influence upon public health, even in salubrious seasons. During last winter, the atmospheric pressure generally ranged high, especially in the first three months of the current year, although it was less elevated in January than subsequently. In the four weeks of this month, ending the 26th, 4,388 deaths took place in London, the barometer being then always under 30 inches. On the other hand, during the four weeks ending the 16th of last March, when the range of the barometer generally varied from 30 1-10 inches to 30 4-10 inches, the metropolis became particularly healthy, only 3,649 deaths having then occurred; thus making a diminution of 739, or nearly one-sixth. The influence which atmospheric pressure exerts upon the health of individuals, seemed still more apparent when the weather became calm, and the barometer ranged under 30 inches. This was noticed during the last two weeks of March, when the mortality again increased, the deaths being then 2,193, or exactly at the same rate registered in the month of January. During the fortnight now mentioned, the atmosphere was generally cloudless, although sometimes it became overcast; the wind was generally north or east; and in six of the above fourteen days, the weather continued calm; the electricity seemed slight; very little rain fell; but in the last week, on three different days, there was some snow and sleet, afterwards followed by showers.

These particulars tend to explain the salubrity of the recent season, especially towards the middle of the quarter, when the atmospheric phenomena were different from those noticed at the early or latter parts. During the first-named period, the thermometer exhibited very moderate variations of temperature between the night and day time. But the investigation becomes even more instructive, when collateral circumstances are also considered. Thus, according as the weather got more dry or calm, and the wind assumed a southerly direction, whilst the electricity was slight, and the barometer low, the number of deaths

augmented, and sickness became more prevalent than previously. As an additional illustration, it may be mentioned, that during the four weeks ending the 30th of last March, (at which period the weather was generally cloudless, or more clear than ordinary, also calm, dry, and at the same time exhibited considerably greater variation between the heat of the day and night time, than throughout the four weeks immediately preceding), the total deaths in London amounted to 4,035; whereas, during the period, also comprising four weeks, terminating on the 2nd of March, the number of fatal cases from all causes did not exceed 3,702, making a diminution of 333 deaths, or 9 per cent. in favour of the month of February as compared with the subsequent March. During the former month, the weather was of a different description; whilst, throughout the night and day time, the thermometer indicated a much smaller variation of temperature.

The peculiar features of the recent season, and the marked increase of mortality consentaneous with some of the changes in the atmospheric phenomena, are important, as they account, in my estimation, very much for the great alteration noticed in the amount of deaths recorded at the different periods above quoted. Indeed, according to the views I entertain respecting the influence of such agents, but which I have only adopted after careful observation during several years, and more especially of late, I think that we may correctly conclude that, whenever the variation between the day and night temperature is unusually great, with cloudless, or even hazy weather, or if a calm, or only slight southerly winds prevail; and further, should the amount of electricity be small, and the quantity of moisture so inconsiderable as to make the air particularly dry, with a low barometric pressure,—then sickness will most probably abound, and more deaths be registered in consequence, than when the opposite atmospheric phenomena prevail.

The influence of atmospheric phenomena on health and disease is, doubtless, a very difficult subject to investigate, and one on which it may seem premature to give a decided opinion in the present state of our knowledge. Yet, I consider that the conclusions now enunciated are borne out by the facts brought forward. Further investigation is desirable; and I feel convinced, that if practitioners will carefully note the changes in the atmospheric phenomena during various consecutive seasons, conjointly with any decrease or augmentation of disease, and with the concurrent rate of mortality, a series of accumulated observations will thus be made, from which useful practical deductions may be derived.[1]

[1] Even in the earliest ages, eminent writers discussed the questions now mooted; and amongst such authorities, Hippocrates and Aristotle may be cited as having paid considerable attention to the subject. The latter philosopher, although not a member of the medical profession, in his Problems, particularly the section headed *Iatrika*, examines, besides meteoric phenomena, the effects produced by rains, droughts, cold, heat, wind, vapours, and many other influences, such as food, drink, or locality, which may produce or modify disease. In addition, I would mention the works of Galen, Aretæus, and others, as containing information on these subjects. The examples of Hippocrates and Aristotle among the ancients, and especially that of Sydenham among more modern observers, are worthy of imitation by every practitioner. If this were done, much valuable knowledge might be obtained, which could not prove otherwise than highly useful in the study of the origin, nature, and treatment of epidemics, as well as of many ordinary diseases.

The influence which particular states of the atmosphere exert upon the action of remedies employed in the treatment of disease, is also an important subject for consideration. Mercury produces a much more powerful and rapid effect upon the human frame, and hence proves more efficacious in the treatment of diseases, in mild weather, if the air be moist, the wind south-west, the barometer low, and the temperature equable, than in dry frosty weather, with a north wind and a rising barometer. Purgatives, likewise, act more effectually in the former condition of the atmosphere. But tonic remedies seem to have their action promoted by atmospheric influences of a quite contrary nature. If prescribed in dry, cold, or frosty weather, with a high barometer, and northerly wind, they become more efficacious than under an opposite condition of the atmosphere. Bleeding, again, depends much on the state of the weather for its beneficial influence in inflammatory complaints; whilst depletion may be employed to a greater extent at one time than at another. As a general rule, it may be affirmed, that patients bear bleeding better in cold dry weather, with a northerly wind, and high barometric pressure, than under other circumstances; and in all inflammatory diseases, requiring venesection, it will prove more beneficial in these conditions, than when the weather is moist, the wind southerly, the barometric pressure low, the temperature elevated, and the atmosphere clear. I might extend these remarks to other classes of remedial agents; but enough has now been said to shew the influence which the state of the weather and atmosphere exert in modifying the action of remedies upon the human constitution.

Climate. The state of the barometer, hygrometer, and thermometer, should be always examined, especially in connexion with any prevailing epidemic, as well as the direction of winds, the electrical condition of the atmosphere, and the aspect of the air, whether clear, overcast, or cloudy. Much important information may be thus obtained, which will prove of the greatest value both to the philosopher and the practical physician. Indeed, I would assert, that the utility of such inquiries can hardly be rated too highly.

The effects of climate in modifying the type, and determining the mortality of diseases, admits of many illustrations, from the changes which take place in the same country in different seasons, and from the special characters which it presents in certain regions of the globe. The relation, also, which temperature and meteorological conditions of the atmosphere bear to the suitableness of various medicines and articles of diet, is an interesting study, teeming with practical lessons in connection with the great subject of public hygienics. For example, in the north of Europe, mercury is more safely given in large quantities than in the south; alcoholic stimulants are less baneful in Russia than in Italy; whilst animal food is more essential in Lapland than in Spain.

The effects of certain *Winds* upon health are well known. In Great Britain, the dread of the *East-wind* is as universal as it is just: in the smiling regions of Provence, and the south of France, the *Mistral* is as great and as dreaded a foe to health and life: and in Italy, so much over-lauded for its climate, a continuance of the *Sirocco* seems to annihilate the energies both of body and mind.

Madrid, perhaps, furnishes more striking illustrations of the effects

of winds and temperature than any other place in the whole world. There, the *Solano*, or south-east wind, produces most powerful and sudden changes in the health of the Madriléños; and the icy northern blasts from the Guadarrama mountains, give rise to acute inflammatory affections of the lungs, which rapidly cut down thousands of the people. In the winter of 1829-30, the deaths from *pulmonia*[1] are stated to have been about thirty thousand. Dr. Cormack, of Putney, has kindly shown me his MS. diary, written in the Spanish capital during the winter of 1839-40, in which he notices the hospitals being suddenly crowded with cases of pneumonia, as a result of the piercing north winds, which were then, for weeks, continually whistling through the streets and commonstairs. The same gentleman also informs me, that palsies and apoplexies, notoriously so common in Madrid, occur with greatest frequency when the wind blows from the snow-clad Guadarrama mountains. From the want of trees and other topographical peculiarities, the air of Madrid is generally dry and searching, which has given birth to the well-known Castilian proverb—

> "El aire de Madrid es tan sotil,
> Que mata á un hombre, y no apaga á un candil."[2]

This piercing air, while it is most lethal to the acclimated, is still more deadly to strangers, who are slow to learn that in Madrid, in all seasons, it is needful to be provided with the ample cloak, as a shield from the arrows of death. I cannot help thinking that, in our country, all classes are strangely reckless in their winter clothing.[3]

The great alternations of temperature which prevail in Madrid, and also in large districts of Spain, explain the common custom of the Spaniards, wrapping themselves in cloaks, even in the middle of summer,—*embozandose en las capas*, to use the popular phrase; and this custom is fully justified by the truthful couplet already quoted.

From various causes, but particularly from those alluded to, Madrid is the most unhealthy capital in Europe, the population being sustained by constantly absorbing the inhabitants of the provinces. The average mortality is at least one death in every twenty-eight inhabitants; whereas

[1] The term usually applied to the pulmonary inflammations, which, like an epidemic pestilence, so often desolate this city, having about 200,000 inhabitants.

[2] Thus translated:— The air of Madrid is so subtle, that though it will not put out a candle, yet it will extinguish a man's life.

[3] The following interesting passage I have much satisfaction in quoting from Dr. Cormack's diary, as it bears out the above remarks. "20*th January*, 1840. The miserable look and melancholy cry of the Aguadors (without partaking of their beverage), has made me shiver all day. What can the loungers at the Puerta del Sol mean in such weather, by drinking tumblers of cold water? The air is most cutting. It reminds me of the '*east haars*' of Edinburgh; for, like them, it makes me feel as if being dried and flayed, outside and inside. In the streets of Madrid, the people wisely avoid breathing, except through the folds of a handkerchief or veil, or both. The chest, too, is well protected, particularly by the men, whose ample cloaks are doubled across their breasts and brought up over the throat to the mouth. The women, I observe, have generally the head ill-covered; but they never expose the throat and chest, like the ladies of England, so scornful of health in their devotion to an unseemly fashion. The scanty covering of the heads of the Madriléñas is certainly surprising. In ordinary weather, they go out with merely a fold of the slight veil (*mantilla*) embracing their hair. A few, but I am told an increasing number, have the mantilla so constructed, as to afford a warm cover or hood to the head. At night, and in very cold weather, it is common to tie a handkerchief round the head, under the mantilla."

in London, it is only one in every forty-two persons, or, in other words, actually less by one-third. The difference between the temperature of the day and night, and even between different sides of the same street, are causes of mortality, which well illustrate some points in our own vital statistics, and which are applicable to the explanation of many sudden variations in the rate of mortality and prevalence of disease. In Madrid, the Manzanares is often covered with ice at night, which disappears during the day; and in summer, when the Solano blows, the city is a furnace, the thermometer being often above 90° F., whereas in winter, it frequently falls below 32° F. During the forenoon of the same day, there sometimes prevails so much as twenty degrees of difference in temperature between the two sides of one street!

Speaking generally, in reference to the salubrity of different climates, very erroneous notions are frequently entertained on the subject, particularly by non-medical observers. Opinions are too often formed from the sensations made upon the individual's own physical frame, not from well-founded and enlarged experience. An agreeable climate is not always the most salubrious, although the animal feelings are certainly often thereby more gratified than in countries where the atmospheric impressions seem of a different description; whilst good health and longevity are more frequent in the latter than in the former. Take the south of France or even Italy, so much esteemed as salutary retreats for invalids. Having visited both these regions, and made inquiry among the inhabitants, into their greatly over-lauded climates, I soon satisfied myself that the views commonly entertained, were founded on exaggerated reports. The conclusion I came to was adopted after much personal communication with the medical practitioners of many parts of Italy, and after attendance in various Italian hospitals and visits to the cemeteries, where foreigners, but English chiefly, were laid in their lonely graves. It is indeed sad to think how many of our countrymen, who cross the Alps in search of health, in place of it find only a tomb in the reputed Elysium of Italy. The climate, especially of the southern districts, is no doubt delightful; and visitors, if in health, enjoy its balmy breezes, splendid sky, and exhilarating atmosphere; at the same time that surrounding nature seems, in many places, like an earthly paradise. Nevertheless, diseases are here quite as serious as elsewhere, are generally more rapid in their course, and often equally uncontrollable by treatment; whilst the average limit of human life is, by no means, prolonged to the same term of years, which we so frequently meet with in the more northern and bleaker countries of Europe. Animal life seems far more rapid in the Italian peninsula, and the physical frame becomes quicker developed; but it decays sooner than in England, where longevity is much oftener observed amongst the inhabitants than in the former country.

Type of Disease. The common type, or diathesis, of most diseases during the last six months, has proved, as has been commonly observed for several years, asthenic; and accompanied in many cases with great debility and exhaustion. So much has this been marked, that the patients have often required support and tonic treatment, although the symptoms have appeared to partake of such an inflammatory character, as to warrant antiphlogistic measures. This feature, though mani-

fested in a very large proportion of the cases met with during the recent season, has been less observed than in the period immediately preceding, when almost every form of malady assumed, if not in its early stage, at least soon afterwards, a decided asthenic character. This result was especially noticed when influenza proved so prevalent and fatal, more than two years ago. Again, a similar peculiarity was perceived in the malignant epidemic of scarlatina, which occurred in the winter of 1848-49. Lastly, the same feature was exhibited, but in a still more remarkable degree, in the cholera, diarrhœa, and dysentery, which prevailed during the months of July, August, and September of last year, and carried off 15,512 persons. Thus was produced a much larger comparative amount of mortality than had ever been previously recorded in London, since the great plague, upwards of 184 years ago; at which time, as in last autumn, infinitely more deaths were reported, than, it is fervently hoped, will be ever again witnessed in this mighty metropolis of England, now teeming with its 2,300,000 inhabitants,—the emporium of intellect, the centre of civilization, and forming the largest mart for commerce which exists, or ever has existed, in the universe.

24, Brook Street, Grosvenor Square,
April 1850.

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At a very recent period,[1] we took occasion, in reviewing the Hunterian Oration by Mr. Skey, and the Regulations of the Society of Apothecaries for 1850, to draw the attention of our readers to the state of the medical profession in the present day, and to state, in pretty strong terms, that the science and practice of medicine had advanced most materially of late years, and that the utility of our profession to the public was daily increasing.

In the present article, we propose to consider the same subject in another light, by comparing the state of medical practice as it now exists, with that which prevailed at the end of the seventeenth century. We shall also take occasion to touch upon some matters which were, from want of space, only casually considered in our former review.

We may preface our remarks by observing, that the epoch in which the publications, whose titles are prefixed, were written, was, according to Mr. Skey, the golden age of medicine: "When," says that eminent authority, "the physician monopolized the entire rank and name of the practitioner in medicine; when the surgeon was a mere operative, identified with a menial trade; and the apothecary was a drug-vender, having, like the surgeon, no claims to medical knowledge, *quoad* the treatment of disease", and when, indeed, according to Dryden, 'he was wholly blind.'"

At the close of the seventeenth century, the physician was, indeed, the only lawful attendant upon the sick, and was the only person practising the medical profession who received a liberal education: the Surgeons were incorporated with the Barbers; and the Apothecaries, who had lately been dissociated from the Grocers by an Act of James I, were formed into a separate corporate body. It may be remarked, by way of illustration of the social position of the surgeons, or chirurgeons of that period, that their duties consisted, in addition to their tonsorial functions, in "letting of blood, applying leeches, plasters, cupping-glasses, syringing, and salivation," etc. (Pamphlet

[1] London Journal of Medicine, May 1850, p. 479.

by Dr. Merrett, page 40); in fact, in performing the "ordinary exigencies" of medical practice, for which the members of the Royal College of Surgeons of England of the present day, were declared to be alone competent, in a manifesto published by the College in 1845. We do not, of course, allude to the *Fellows* of that College, who, from the extent of their classical, mathematical, and philosophical acquirements (which, however, are yet to be tested), in addition to their purely anatomical, pathological, physiological, and surgical attainments, are the only surgeons of the present day.

In the year 1850, the aspect of affairs has, in many respects, been remarkably altered. The Physician still retains, as he undoubtedly ought to do, the respect and esteem of society, founded—not upon the *prestige* of this or that university, or upon the favour of this or that *côterie*—but upon a high moral character, and a solid knowledge obtained in the wards of hospitals, in the laboratory, and in the dissecting-room. With regard to the Surgeon of the present day, we find some difficulty in defining his true status; for the greater part of the practice, both of Fellows and Members of the Royal College of Surgeons, is not surgical, but purely medical; and though, perhaps, the *Fellows* represent the concentrated essence of the surgery of the nineteenth century, a large number of the *Members* occupy pretty much the same position as they did at the end of the seventeenth, except that they are not now associated with the barbers. The apothecary, while he unluckily retains the name, has wholly changed his character, and instead of being the uneducated retailer of drugs, has become the legitimate and recognised medical attendant upon all ranks of society, but especially upon the middle classes and the poor. But the elevation of the apothecary to the rank of a professional man, has excited the jealousy, and kindled the opposition of a class with which he was himself once inseparably associated, namely, the druggists, or, as they usually, but improperly, style themselves, the chemists.

There is a parallel between the relative positions of the apothecary and the druggist of 1850, and of the physician and the apothecary of 1770. The complaints made in the present day by the apothecaries against the druggists, are the exact counterparts of those made by the physicians against the apothecaries in the seventeenth century; with this important difference, however, that the apothecary of the present day is far better acquainted with the practice of medicine than the physician was two centuries ago. Dr. Merrett, one of the learned authorities whose work now lies before us, thus exposes the frauds and abuses of apothecaries in the year 1669:—"They use," says the doctor, "medicines quite contrary to the prescription; mushrooms rubbed over with chalk for agaric, privet and dog-berries for spina cervina, sheeps' lungs for fox lungs, the bone of an ox's heart (?) for that of a stag's heart, damsons for Damasc prunes, syrup of lemons for that of citrons, bryony roots for Mechoacan, (?) etc." The indignant language in which these frauds are denounced, proves the value attached to the therapeutical virtues of such choice articles of the *materia medica* in that day.

It appears, however, upon indisputable evidence, that the state of the medical profession at the period to which we are now referring, was extremely unsatisfactory, as indeed may be gathered from perusing some of the titles of the works enumerated at the head of this article, and which, it will be perceived, are couched in the language of complaint. The physician did, indeed, "monopolize the entire rank and name of the practitioners of medicine," and those who could not pay him his fees, were handed over to the tender mercies of the barber-surgeon or the "wholly blind" apothecary. From the very necessity of the case, therefore, the two latter were compelled to undertake the management of many of the sick,—with what success need not be recorded. Hence arose a warm contest between the physicians and the apothecaries, the former accusing the latter of usurping their province, and the latter continuing the usurpation, until the dispute was finally set at rest by the decision of the House of Lords, in 1703, in the case of William Rose,

an apothecary, in which case it was decided, that the duty of the apothecary consisted not only in compounding and dispensing, but also in directing and ordering the remedies employed in the treatment of disease.[1]

Such is a brief sketch of the relative positions of the different branches of the medical profession at two somewhat distant periods of its history; and the contrast is introduced to shew that, *mutato nomine*, there was, two hundred years ago, the same conflict between knowledge and ignorance, between collegiate rights and popular necessity, between presumed privilege on the one hand, and the presumed want of it on the other, as exists in our own day. The subject might be illustrated in an interesting manner at much greater length, but the limits assigned to this review oblige us to pass on to other topics.

We therefore proceed to consider, in more detail than we were able to do in our last number, the abstract principle of APPRENTICESHIP, and the system of what is called GENERAL PRACTICE. In doing so, we shall derive no small advantage in our inquiries, from the perusal of the quaint publications now before us, written, be it remembered, during what was, in Mr. Skey's opinion, the Augustan Age of the Medical Profession in England.

We would heartily rejoice, were a better system of apprenticeship than the present devised; yet we must confess, that it has numerous advantages, and that many of the objections raised against it, are founded upon exaggeration, misconception, or absolute misstatement through ignorance. For ourselves, we have no strong feeling in the matter. It appears, that a clause requiring an apprenticeship found its way into the Apothecaries' Act of 1815; and it is therefore necessary to ask, whether the operation of this clause, as interpreted by the competent authorities, and acted upon, is as mischievous as Mr. Skey and others have maintained.

In examining some of the objections *seriatim*, we would first remark that it is possible that an exception may be taken to the name; but the name, after all, is a very harmless one. It is derived, as the Dictionaries tell us, from the French word *apprendre*, to learn, and it signifies *a person who is engaged in learning*. That it does not necessarily involve the learning of *a trade*, it requires little argument to prove; for the articled pupils of the surgeons of the London hospitals were (and are, for anything we know to the contrary), called the *apprentices of the hospital*, and barristers were formerly designated *apprentices of the law*.

In our former article we proved, by reference to facts which are known to

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[1] The apothecaries, by this decision of the House of Lords, were restored to what appears to have been their ancient and legal rights; for Henry VIII, *after* the grant of the Charter to the College of Physicians, appointed John de Soda to be apothecary to the Princess Mary, who was delicate and unhealthy, at a salary of 40 marks a year, *"pro meliore curâ et consideratione sanitatis suæ"*; and John de Soda continued apothecary to Mary when she became Queen. The cursory perusal of certain works, published in the fifteenth and sixteenth centuries, might lead to a very imperfect notion of the duties of the apothecary. In illustration of this, we select the following quotation from C. Bullein's work, entitled "Bulwarke of Defēce against all Sicknes, Sornes, and Woundes, that dooe daily assaulte Mankinde." (London: 4to, 1562.)

"That he neither increase nor diminishe the phisiciās bille; and kepe it for his owne discharge.

"That he neither buie nor sell rotten drugges.

"That he peruse often his wares, that thei corrupt not.

"That he put not in *quid pro quo* without advysement.

"That he maie open well a veine, for to helpe the pleurisy.

"*That he medle onely in his vocacion.*

"That he delite to rede Nicolaus Myrepsi, Valerius Cordus, Johannes Placaton y^e^ Lubik, etc.

"*That he doe remember his office is onely to be the phisiciās coke.*

"That he use the true measure and waight." *Apoticaries rules, by W. Bullein.*

the whole profession, that such statements as the lot of the apprentice being "that of an ordinary servant", that he passed "four or more long years of personal servitude", that he was "the purchaser of his own degradation", etc., were mere figures of speech. In fact, the five years of the so-called apprenticeship include, or at least may include, the whole of the student's career as a pupil; the law evidently contemplates such an arrangement: and those who administer the law appear to have facilitated it by every means in their power. But it is possible, that the opposition is made to the *surveillance* necessarily exercised over the young student of medicine, by one who is older, and, consequently, more experienced than himself. If such be the objection, it surely is an unreasonable one; for, in every employment of life, the junior members must obtain their knowledge from their seniors, and submit to their control. In the army and navy, this is universally known to be the case; in the law again, the future attorney is articled for five years to one of his own grade in the profession; in the church, the student must not only conform for a series of years to collegiate discipline, but must afterwards serve for a definite period as deacon (from the Greek word διάκονος, a servant) before he can be admitted as a priest. It is not therefore very strange, that the future practitioner of medicine should serve a pupilage with an older person, who practises the same branch of the profession which he himself intends to adopt. We leave out of the question the education of physicians; we do not consider an apprenticeship quite so necessary for them, although we believe that it would tend to fit them more speedily for practice.

A thorough college education, followed by a prolonged course of medical study, is necessary for those who aspire to the higher walks of the profession; but such a prolonged and expensive course of study is quite incompatible with the pecuniary means of the mass of students, who enter the profession as a means of soon gaining their livelihood, and who dare not, like metropolitan physicians, spend one fortune in the hope of making a larger, at the end of a weary period of probation. For such honest and humble men, domestic pupilage seems the best resource; but for all practitioners it offers a good school for training.

We conceive, therefore, that we have satisfactorily proved, that the system of apprenticeship, when dispassionately considered, is not very objectionable; and that a very few immaterial alterations would entirely remove every ground of complaint. If the term *apprenticeship* be distasteful, it might be altered to *pupilage;* but that some such training, either in a private house with a practitioner, or in a well-arranged medical collegiate establishment, should be made compulsory upon every student destined for family practice, is, in our opinion, absolutely essential to the well-being of the profession, and to the safety of the public. If it be argued, that under such a *régime*, many turn out idle and unprofitable pupils, it may be replied, that it is impossible, under any system, to alter the condition of human nature, and to make all teachers conscientious, and all young men studious; but it is far more probable, that a beneficial effect will be produced under the wholesome restraint of domestic or collegiate discipline, than by liberating the young student from all control, and allowing him to pursue his studies or his amusements in the manner most pleasing to himself. But the latter alternative seems so absurd, that we shall not waste any further words upon the subject, and will conclude our remarks upon apprenticeship by quoting the following passage from the pamphlet first on our list, which was published in 1665—one hundred and eighty-five years ago. "Nor let any man think to disgrace this method as mechanical, by *the imputation of taking apprentices*, since the word apprentice is entertained by the honourable profession of the law, whose younger students have been called apprentices to the law; but, however this be, it were very fond, for so poor an occasion, to neglect a thing *that is founded upon the evidence of true reason itself*. Nor indeed should they be received in the capacity of servants, or under that name, but rather

of young students, friends, or virtuous companions to be instructed in this worthy profession; the drudgery of all things resting wholly upon some ordinary servant, kept by every one for the uses of his family; and I make no doubt but there are very many ingenious young men in England, who would be very glad, and take it for a great honour, to be thus received by some of the grandees and great practitioners; and their friends believe whatever is bestowed on them in this way very well and honourably employed."

These views—advanced in relation to the education of physicians in the seventeenth century—we consider perfectly applicable to that of all classes of medical practitioners of the present day.

In defending general practice, we do not wish to exalt it above the other branches of the profession. We desire, however, to call attention to social changes now in progress, by which many, educated for the highest departments of practice, find it essential to their interests to act as general practitioners among the wealthy classes, as has long been the case in Edinburgh.[1] It is notorious, that the examinations for the Medical Degree of the University of London are more difficult and searching than that of any other board in the kingdom; yet many gentlemen pass through that ordeal, as the most important qualification for success in general practice among the upper classes of society. We think that the whole profession might be received within the portals of the two colleges, namely, that of the physicians and that of the surgeons; and that the rank and sphere of practice of each member of the medical community might be left to his individual tastes and talents. The sanction, or call, of the profession, should be the chief qualification for the rank of a consultant. Superior skill, when associated with honourable conduct, commands success more certainly than artificial class-distinctions; and, in this enlightened age, the public and the profession respect collegiate status, only when associated with individual worth. Does Sir Benjamin Brodie owe his pre-eminent position to his sterling character, and matchless skill, or to his collegiate honours? Is it the recently conferred fellowship which has given to Marshall Hall an undying name? Or, did the withholding of the fellowship diminish by one iota the glorious renown of a William Hunter, or an Edward Jenner? The colleges, in their jealousy of the claims set forth by the unincorporated practitioners, have little sympathy from the public; who, while they recognize a distinction of grades, and the importance of the study of specialities, are slow to perceive, why these differences should require to be maintained by coercion, and jealously defined by artificial rules.

It is highly advantageous that consulting physicians and surgeons should exist, who, from the superiority of their intellect and the extent or speciality of their studies, may be called in, to advise and assist their professional brethren; BUT IT IS ALSO FAR MORE NECESSARY, that the vast mass of the medical community be so educated, as to be enabled, in situations where no assistance can be obtained, (as at sea, in the colonies, and in the provincial towns and villages of England), to minister, and to minister efficiently, to all the diseases incident to humanity. On the respectability, the education, the talents, and the judgment of this class, (in London called *general* practitioners,[2]) depends, in a very great degree, the health of the com-

[1] In Edinburgh, many general practitioners do not practise midwifery, and of late the majority have relinquished pharmacy (and therewith many patients) to the druggists. With the exception of Mr. Syme, the Hospital Surgeons are family attendants.

[2] The term General Practitioner is hardly understood in the provinces. In a recent official conference with Sir George Grey, Mr. Noble made the following explanation at the request of his colleagues, the medical and surgical practitioners residing in various parts of the kingdom:—"He would make a few remarks on the use of the term general practitioner—a term which had given rise to much unnecessary complication. It was an error to suppose that such a tripartite division of

munity. The wealthy indeed, and the inhabitants of the large cities, may command the services of men exclusively eminent in surgery, in medicine, or in midwifery; but the middle classes, for pecuniary reasons, and the majority of the humble classes by compulsion, *must* avail themselves of the services of the general practitioner. It is, therefore, essential that every scheme of medical legislation should provide for the efficient education, and suitable examination, of this very large and important branch of the medical profession; unless, indeed, we assent to the proposition, that the welfare of the masses of the population is of no importance in the eyes of the legislature, and that the advantages of medical science are to be conferred only upon the rich.

We speak advisedly when we state, that the attainments of the majority of the general practitioners are far below the standard which ought to exist in the present day, amidst the innumerable opportunities of advancement afforded by the general diffusion of science, by the talents of the medical professors, and by the abundant stock of information contained in our great hospitals: and it is to us abundantly plain, that any attempt to degrade this large body of professional men, must inflict the deepest injury upon medical science, without in any degree benefiting the public.

Admitting, therefore, that the consulting physician and the consulting surgeon are necessary components of the medical community, we insist upon the co-equal importance of the general practitioner, nor can we tolerate the idea, that the latter is in any way *degraded*. But on high authority we have been told, that a mark of degradation is affixed to this or that medical practitioner, not because his education is inferior, not because his moral character is suspicious, not because his intellect is more feeble, not because his physical efforts are less strenuous, but (and we blush to write it in the sunshine of intelligence which illuminates the nineteenth century) *because he dispenses his own medicines!* Why, Podalirius and Machaon dispensed their own medicines; and our great father Hippocrates distinctly recommends physicians to have all kinds of medicines always ready in their own keeping, which plan, he says, will make a physician more confident in his practice, and more ready to apply himself to the sick. "A physician," says he in his book περί ἐυσχημοσυνής, "ought to have his shop or Ιητρειον provided with plenty of all necessary things, as lint, rollers, splints; let there be likewise in readiness at all times, another small cabinet of such things as may serve for occasions of going far from home; let him have also all sorts of plasters, potions, and purging medicines so contrived, that they may keep some considerable time; and likewise, such as may be had and used while they are fresh."[1] Galen,

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the professson existed out of London as in it. The only terms that were so much as understood were, *physician* and *surgeon*. Nobody in the country used, nobody knew, the term *general practitioner*. The physician was understood to be he who restricted his practice to internal maladies, with a view to consultation practice, and the surgeon was regarded as making no such restriction. The practice of pharmacy was very much a matter of accidental circumstances. The surgeon who would exclude it in a large community would, from the necessity of the case, include it, if practising in a locality differently circumstanced. General practitioners (if the term be understood of those who practise without either a degree in medicine or a surgical diploma) do not form a twentieth part of the body of the profession. Great mistakes have arisen from confounding the apothecary licensed to practise medicine, with the surgeon in general practice, some employing the term general practitioner in relation to the former, and others to the latter." Sir George Grey and the Lord Advocate seemed to be struck with Mr. Noble's explanation, and requested, as early as possible, to be furnished with the promised memorial. The deputation then withdrew. *Lancet*, May 1850, p. 576.

[1] We give part of the passage from Hippocrates in the original Greek. Προκατασκευάσθω δὲ σοι καὶ μαλαγμάτων γενέα πρὸς τὰς ἑκάστων χρήσιας, ποτήματα τέμνειν δυνάμενα ἐξ ἀναγραφῆς ἐσκευασμένα πρὸς τὰ γενέα· προετοιμάσθω δὲ

also, not only recommended physicians to dispense their own medicines, but he himself kept a repository, or Αποθήκη (whence is derived the name of apothecary), where he informs us, his medicines were always under his own eye or in his hand. And without quoting the examples of Hermes Trismegistus, Diocles, Scribonius Largus, Andromachus, Oribasius, and a multitude of others, who pursued the same mode of practice, we may at once come down to our day, and state that Cullen, William Hunter, and Abercrombie, all dispensed medicines to their patients. We shall now proceed to quote some passages from the pamphlets cited at the head of this article, which are nearly all written by Graduates in Medicine and Fellows of the College of Physicians of London, and which all advocate the propriety and necessity of the physicians dispensing their own medicines. Let us first hear Dr. Jonathan Goddard, Fellow of the College of Physicians, and Professor of Physick in Gresham College.

"The dividing and separating of that part of the Art of Physick, which concerns the Preparation and Composition of Medicaments, from the body of it, so as to put the practice of it into other hands, was never heard of in the ages of Hippocrates, Galen, and other ancient physicians; *and hath been judged by some of the chief authors in physick, to be of unhappy consequence to it, upon several accounts.*" (p. 8.) Again the same author writes at page 30; "And it will not be hard for a physician, making use only of a servant or servants, to oversee *and with his own hands prepare and compound* what is necessary for himself to do; and by this means, though he be in full practice, at the expense of a few spare hours, to store himself sufficiently for all his occasions, of such great remedies and secrets of importance . . . Nor can it be any dishonour to a physician thus to employ himself between whiles, *in the making of such choice and important medicines;* as it is upon record, that Hippocrates and his sons, Galen, and other ancient physicians, did the like."

"Besides the securing of the Practice of Physick to Physicians, and the preventing its falling into other hands, which is a more necessary advantage, there is another of happy consequence and more honourable, which, by this course of physicians making their own medicines, may be attained: that is, a great improvement in the art itself, before hinted. For when judicious physicians come to be more familiarly acquainted with the materials of medicaments, and also to experiment and observe operations and processes upon them, especially the more accurate and artificial, as in chymical preparations, they will discover the most advantageous ways of preparation, and the most rational proportions in order to composition; and come to contrive and invent new medicaments, exceeding others in their kinds, and improve, beyond what they can imagine of themselves before they have entered this way, and what they can never otherwise attain, as some learned and ingenious physicians have done." (p. 34.)

The next quotations are from a very learned and elaborate pamphlet by Dr. Maynwaring, who thus, at page 4, adduces the authority of the ancients, in favour of the physicians preparing and dispensing their own medicines:

"Famous Quercitan, upon this question, An medicum deceat φαρμακοποιεῖν? affirms that the ancients were very industrious and diligent in the preparation of their medicines, which they kept in readiness by them, to serve their practice: 'Hippocrates ipse eorum faciem conspuisset, qui præparandorum suorum remediorum scientiam illi detraxissent, quorum veteres vigiles fuerunt custodes.' This, also, is affirmed by Sennertus, a judicious, moderate, and faithful writer, who, handling this question, An medico liceat componere medicamenta? holds the affirmative, both from the antiquity of the custom, as also the utility and advantage to patient and physician: 'Neque etiam præter dignitatem medici esse componere medicamenta, antiqui illi viri pru-

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καὶ τὰ πρὸς φαρμάκιην ἐς τὰς καθάρσιας ἐιλημμένα ἀπὸ τόπων τῶν καθηκότων ἐσκευασμένα· ἐις ὃν δὲ τρόπον πρὸς τὰ γενέα καὶ τὰ μεγέθεα ἐς παλαιῶσιν μεμελετημένα.

dentissimi, medicique peritissimi satis docuerunt. . . . . *Ipsi domi suæ medicamenta composuerunt, neque sibi dedecori, sed laudi esse duxerunt,* si rei humano generi utilissimæ operam impenderent, neque plus rationis manuum suarum, quàm animi haberent ; imò ignaviorum potiùs esse videtur, omnia ministris committere, quorum vel avaritiâ vel improbitate factum est sæpiùs, ut medicamenta præstantissima, quæ *θεῶν χεῖρας* antiqui appellant, vel indoctis empyricis communicarentur, vel corrupta et vitiata authoritatem suam amitterent, nec vires, ob quas ab antiquis prædicabantur, haberent.' "

Dr. Maynwaring then proceeds to prove, that the preparation of medicines was the general custom among the ancient physicians, and that it was continued, in all ages, by their successors, among whom he cites Paracelsus, Libavius, Basil Valentine, Hartman, Van Helmont, Glauber, etc. : and he enforces the adoption of this plan upon his contemporaries, upon the following grounds : I. The improvement and advance of the art itself ; II. The security and utility to the sick ; III. The advantages and satisfaction to the professors. He then argues very strongly, that the pharmaceutic art is the foundation, upon which the whole success of medical science mainly and chiefly depends, and that the origin and invention of physic, sprang at first from an empirical knowledge of medicines. He then lays down the three following positions : "I. That pharmacy, or the dextrous preparation of medicines, is the most excellent and necessary part of physic ; and the main stress of curing lies chiefly in the compleat medicinal apparatus. II. That true skill in pharmacy, and a certain knowledge of medicines, is not gained by reading, but by manual preparations and tryals ; personally observing through the whole process of the medicine, and noting all the circumstances appertaining to it. III. *That the preparation of medicines is the proper and special business of every physician ;* without which experience and certain knowledge in medicines, *he cannot be compleat in his profession,* but very insufficient *in the grand and most weighty part of the medical science.*" (p. 8.)

The same author, at page 17, argues that "the true knowledge of medicines, and improvement in pharmacy, depend upon practice in preparation, and that, therefore, this knowledge and improvement ought to spring from the physician, *and be reposited in him ;* else he cannot be able to direct, correct, and improve medicines ; *that, without such knowledge, he is very unfit to undertake the management of the sick ;* very unskilful *to adapt, order,* and *appoint medicines ; very unable to perform a cure :* that his title and abilities are very incongruous, and more properly he deserves the character of an empirick, *in the worst sense,* than Doctor Medicinæ ; because he is *medicamentorum imperitus.*" He then, again, quotes Quercitan, to the following effect : "' Quàm turpe est medico, sibi doctoris titulum arrogare, et materiam, quâ uti debet, modumque illius parandæ ac administrandæ ignorare, patique se à ministris suis superari ? an ignoras experientiam rerum esse magistram ? ergo pharmacopœius eam callens magister erit, tu verò bruta statua cathedræ affigeris.' "

He next quotes the authority of Doctor Thompson, whom he styles "a learned physician and expert operator in medicines," and who says, "' that physicians ought to make their own medicines ; for thereby they shall prepare them with a satisfactory elegance and exactness, improve them to the greater advantage, understand their vertues more clearly, administer them with more discretion, and acquire a far greater confidence of their success ; then may he be styled *θεραπευτικὸς ἰατρὸς,* an officious physician indeed ; otherwise, he can deserve no other title than of a mere trifler in his function, acting *ἀκεδεστώς, carelessly, perfunctorily, and cruelly.*' " (p. 20.)

Dr. Maynwaring thinks (page 43) that the doctor "is not required to toil in the drudgery of the servile works that belong to medicines, but that he should supervise and take care there be no neglect, mistake, or abuse ; he may have workmen to do the work, but, in the interim, he must be workmaster, to design the medicine, to appoint, correct, and overlook the whole

business; he is ἐργοδιώκτης and ἀρχιτέκτων: and where the curiosity, mystery, and intrigue of the art lies, *that is to be done by his own hand, that is his closet business.*"

To sum up a great quantity of matter in a few words, it seems to be evident, from the contents of the pamphlets now lying before us, that the whole of the medical learning of England in the seventeenth century, was confined to the members of the College of Physicians of London, who, no doubt, were able, learned, and accomplished men, but, in point of medical acquirements, far below the general practitioners of the present day; that, owing to the expensive collegiate education of the physicians, and to their rank and style of living, they practised almost entirely among the rich and powerful; that, from the very necessity of the case, the poor, and many of the middle classes, were obliged to have recourse to the apothecary (who, in that day, was little better than a tradesman), or to quacks and mountebanks, for the treatment of their diseases; and that the physicians endeavoured to remedy this state of things, by recommending their brethren of the London College to take the preparation and dispensing of medicines into their own hands; and it cannot be denied that reason, justice, and expediency, were on their side of the argument.

It is impossible, in this place, to avoid remarking, that the ignorance of the apothecary and the mountebank (who, however, were the accepted medical attendants upon the poor and many of the middle classes) was a standing subject of reproach till the beginning of the present century, but that the Act of 1815 entirely altered the condition of the profession; and we cannot acquit of deliberate misrepresentation, those who endeavour, by the mere use of a name, to confound the *Apothecary* of the nineteenth century with the *Apothecary* of the seventeenth. Those who do so, know perfectly well, that the educated apothecary of our own day, is the counterpart of the physician in the time of Charles II, and that the apothecary of that day is the counterpart of the druggist of the present; and know, moreover, that the educated physician in 1850, owes his just elevation to the honourable position which he holds in science and in society, to the *vis à tergo* communicated by the education of that numerous and meritorious class, which some authorities affect, with equal want of reason and justice, to treat with contempt.

We shall conclude these extracts with the following curious medical advertisement from a newspaper called the *Postman*, of January 16, 1700. (The italics are our own).

"At the Angel and Crown, in Basing Lane, near Bow Lane, lives J. Peckey, *a Graduate in the University of Oxford, and of many years standing in the College of Physicians, London*: where all sick people that come to him may have for 6d. a faithful account of their diseases, and plain directions for diet and other things they can prepare themselves: and such as have occasion for medicines *may have them of him at reasonable rates, without paying anything for advice*: and he will visit any sick person in London or the Liberties thereof, in the day-time for 2s. 6d., and anywhere else within the Bills of Mortality for 5s."

Notwithstanding the above quotations, we by no means advocate the necessity of physicians dispensing their own drugs in the present day. Our only object has been to shew, both from the authority of antiquity and from the dictates of common sense, that there is nothing which is derogatory or degrading in such a practice; and admitting, as we do, the propriety and advantage of the division of labour, we are disposed to respect a class of men who do not dispense their own medicines, but, at the same time, we cannot join in depreciating those who do. It is also our fixed opinion, founded upon no small amount of experience and observation, that every member of the medical profession, from the court-physician to the union-surgeon, and whether he be physician, surgeon, obstetrician, general practitioner, or spe-

cialist, *should be instructed in practical pharmacy, in the early part of his career.* We care not whether this be accomplished by an apprenticeship, by service at the hospitals, or by attendance upon a union: *we are convinced that it ought to be done*, and that those who depreciate the knowledge of pharmacy, are inculcating principles which are as absurd in theory, as they are dangerous in practice; absurd in theory, because pharmacy, although not the *only* foundation of therapeutics, is a very necessary and a very important one; and dangerous in practice, because ignorance of practical manipulation may lead prescribers into serious errors. We repeat the opinion expressed in our last number, that every student should be compelled to wield, for some time, the instruments so contemptuously denounced by Mr. Skey: that he should be able to compound medicines, to make tinctures and infusions and decoctions, and to roll up pills; and if he be too proud to submit to these occupations for a short period of his career, he ought not to enter into the medical profession at all. We do not advocate, and we never have advocated, the justice or the expediency of anybody devoting *five years* to such avocations; but considering as we do, that medicine and surgery are practical sciences, that many of the duties performed by the practitioner are necessarily repugnant to human nature, and only to be reconciled to him by his ardent desire to benefit his fellow-creatures, we are convinced, that the most able and the most successful professor of the healing art will be the man who has not hesitated, but who has cheerfully consented, to perform *all the manipulations of his art*: who has himself sought, in the structure of earths, minerals, and plants, the powers which are antagonistic to disease, and who has himself separated or united their component parts in seeking for new or effective forms or combinations: and we maintain, that such practical knowledge is an admirable and essential preparation for his researches into the anatomical structure and physiological laws of that marvellous economy, whose derangements are to become the study of his after life.

We therefore conceive, that it is quite ridiculous to endeavour to fix a brand of inferiority upon those members of the profession who dispense their own medicines. The plan is, we believe, often one of great convenience to all parties, both practitioners and patients, and is, in some cases, the result of imperative necessity. It is, when judiciously carried out, a great boon to those who cannot afford to pay separate accounts to the doctor and the druggist, and who prefer to give their fees to the man of skill. Drugs, judiciously administered, are the instruments used by the practitioner in the cure or alleviation of disease; and it is of no consequence, as regards the success of the treatment, who dispenses them, so that their composition be superintended by persons possessed of competent pharmaceutical knowledge.

But while we have thus argued (and we hope effectually) against the absurd and ungenerous attempts which have been made to lower one branch of the profession, in order arbitrarily to exalt another, we are not disposed to defend the abominable *abuses* to which the system of sending out medicines, *and of charging for those medicines*, has too frequently given rise. We are no friends to that miserable system of medical remuneration, which is founded upon the plan of sending enormous quantities of medicines, which, if composed of inert materials, can do no good, and if of active ingredients, may do much harm. *There is nothing whatever in the present constitution of the medical profession, which necessitates the sale of drugs, for the purposes of professional remuneration;* and, if the whole of the members of the medical community were to abandon the system of charging for drugs, *there is no law whatever to prevent them from doing so.* We believe that such a desirable consummation is not very far distant, as the system of charging for attendance, with or without drugs, is becoming daily more and more general.

Believing, as we do most sincerely, that medical science has advanced, and is advancing by rapid strides; feeling, as we do, that the medical profession is inferior to no other, we are anxious that all its professors—whether

they minister in peace, or amid battles, in the palaces of kings, or in the cabins of the poor—should be deeply impressed with the dignity, the sacredness, and awful responsibility of their high calling. Were we each, as individuals, to correctly realise our position, the profession as a whole would at once be elevated in utility and public estimation, far above that point to which the most disinterested and enlightened legislation could raise it. "The sphere of other men's labours is bounded by time. The great paintings, and sculptures, and temples of this world; its fleets and its arsenals, its handiworks of all kinds, will be left behind on the shore of this dead earth, and be found not in the world to come. But to our calling belongs this strange peculiarity, that the objects of our art are as immortal as ourselves. They will go before us, or accompany us, or follow us, and be all forthcoming at the great day. We shall meet our patients again, and have to answer to God in their hearing for all that we did to them, whilst we were together upon earth." [1]

The education of the medical profession solicits our careful attention, in relation to the topics considered in this and a previous article; but the limits assigned to us having now been almost reached, we must leave it for future discussion.

In the meantime, we would conclude with three short paragraphs, which, though they may appear mere truisms or platitudes to many, are nevertheless so generally lost sight of, that it cannot be useless to give them prominence in this place.

1. Medicine, Surgery, and Midwifery are not distinct sciences, but inseparably and essentially one: for the convenience of the public, and the interests of individuals, they may be honourably practised either collectively by the same, or separately by different persons. The scientific physician, the scientific surgeon, and the scientific obstetrician, as well as the scientific professor of medicine, surgery, and midwifery—if equally competent in their respective spheres, and equal in moral qualities—are of equal importance in their profession, and of equal value to society.
2. The physician, surgeon, obstetrician, or general practitioner, who supplies his patients with the necessary medicines, does not *ipso facto* offend against professional propriety: and those only who sell drugs, who levy fees with reference to the quantity of physic sent in, deserve the opprobrium of being half tradesmen, and half professional men.
3. The highest rank in the medical profession ought to be conceded to those who (being of blameless life, and strict honour) are pre-eminent for their learning and their skill. To such men only ought medical teaching to be entrusted; on such men only ought collegiate fellowships and state honours to be conferred.

Description of an Improved Truss, constructed by Staff-Surgeon G. R. Dartnell, and now in general use in the Army. London: 1850.

The inventor does not pretend to claim for this instrument any originality, except as a combination. It consists of a light and elastic spring of the semicircular kind, the fulcrum being placed behind, near the top of the sacrum, and the resistance in front. It has a graduated downward curve at its anterior extremity, which brings the pressure of the rupture pad directly upon the upper hernial opening and the inguinal canal. The spring has a casing

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[1] Wilson, George, M.D. On the Sacredness of Medicine. In Lectures on Medical Missions, p. 206. Edinburgh: 1849.

of padded leather, continuous with which is a strap of the same materials which, passing round the opposite hip, and buttoning to the pad in front, is intended to steady the fulcrum, and keep the instrument in its place.

The anterior or rupture pad is formed (like Dr. Chase's American truss) of hard wood polished, and has a flattened oval shape.

The back pad is flat, formed of strong leather, padded on the inner face, and furnished with two bridles on the outer one for connection with the spring. This pad rests in the hollow of the back, or a little below it; but if the patient be not emaciated, and the spring required be not a strong one, the back pad is liable to slip off altogether.

The advantages of this truss may be stated as follows:—

1. It is lighter than any other instrument of the kind with which the inventor is acquainted; the average weight of the single truss being about four ounces.

2. From its lightness, small size, and close fitting to the person, when properly adapted and applied, it is worn by the patient almost without his being aware that he has such an instrument on him; and it is imperceptible under any dress—a matter of some importance with military officers who wear the shell jacket.

3. It is simple in its construction, and therefore of comparatively low price, and easily altered or repaired by any ordinary mechanic. "A simple instrument," says Lawrence, "when well made, answers every end which can be accomplished by more complicated ones, and is therefore preferable, for reasons that must be obvious."

4. The rupture pad being of hard wood (box is the best) or of ivory, is imperishable, as it does not absorb the perspiration, and will not chafe or excoriate the skin; if preferred, however, this pad may be covered with a cap of chamois leather or flannel, renewable at pleasure.

5. A material advantage derivable from the wooden pad, is the facility with which it can be modelled, or altered, or a new one made, by any handy person, to the size or form required for any special case. When the pressure, for instance, is to be made on any one particular spot, the pad may be more rounded; if the pressure is to be general, it should be flatter; when the hernia is old, and the protrusion takes place near the pubes, the pad should have something of a triangular shape; or if the hernia be what is called "direct", the pad may be modelled with a rounded prominence or nipple on any required part of its face, in imitation of M. Malgaigne's mushroom pad. This nipple being applied exactly to the spot where the protrusion takes place, fills up the aperture like an operculum, and effectually prevents any protrusion of the bowel.

6. By the small size of the anterior or rupture pad, as compared with those of most other trusses, and the place it occupies when properly applied, the spermatic cord is effectually preserved from injury; and the pressure being made on the inguinal canal, and the upper hernial opening, instead of the lower, there is no pressure on the pubes, nor is there any danger of strangulation or injury of the gut within the inguinal canal.

7. By a trifling modification of the anterior curve of the spring, and a slight alteration in the shape of the wooden pad, the truss is equally applicable to a femoral, as to an inguinal hernia: and has been worn by many female patients with the greatest efficiency and comfort.

The following Report is selected from a large number of recommendatory notices:

"Fort Pitt, Chatham, 11th July, 1846. Proceedings of a Board of Medical Officers, held by order of the Director-General of the Army Medical Department, to report upon a Truss for Inguinal Hernia invented by Staff-Surgeon Dartnell, as to its claims as compared with the trusses hitherto in use.

The Board have seen satisfactory trials of the truss, made in this and the Detachment Hospitals, and are satisfied that it is the most efficient instrument

of the kind they have seen; and in their opinion is peculiarly adapted for general use in the Army. The truss is strong and durable, and so simple in its construction that it may without difficulty be made or repaired by an armourer-sergeant; and is, in the opinion of the Board, calculated to give the most perfect security, as well as greater comfort than others, to the wearer. (Signed) J. French, M.D., *Principal Medical Officer, President.* Wm. Ford, *Staff-Surgeon, 1st class.* Samuel Piper, M.D., *Surgeon, Provisional Battalion.*"

On the Nature and Treatment of Diseases of the Kidney, connected with Albuminous Urine (Morbus Brightii). By. G. Owen Rees, M.D., F.R.S., London: 1850.

The present treatise by Dr. Rees, is one of the best of the many works which have been published upon that numerous class of diseases, comprehended under the name of Bright's Disease. The author is, for many reasons, admirably suited to the elucidation of this important branch of pathology; for he is an excellent chemist and physiologist, an acute observer, and an accurate and logical thinker. His position at one of our largest metropolitan hospitals, has given him great advantages which he has not failed to improve; and all his writings, while they are far from being deficient in sound theory, bear in addition the marks of practical experience. The book now before us is but small in compass, but it is rich in information, and every page will amply repay perusal.

In treating of the Morbid Anatomy of the kidney in albuminuria, the author, after alluding to the different conditions of the organ described in this disease, by Bright, Rayer, Christison, and Rokitansky, proceeds to examine with great acumen the views advanced in very recent times by Dr. Johnson and Mr. Busk; the former considering that the Morbus Brightii is "primarily and essentially an exaggeration of the fatty matter, which exists naturally in small quantities in the epithelial cells of the healthy organ": and the latter, that adhesive inflammation of the tubuli uriniferi and venous plexus of the kidney is "by far the most frequent cause of chronic albuminuria, and what is termed granular degeneration of the kidney." Dr. Rees, however, combats the first view upon chemical grounds; and, taking advantage of the power possessed by ether of abstracting fatty and oily matters from the surrounding textures, shows from his own experiments, that an oily or fatty *appearance* by no means indicates the presence of fatty *matter;* and in one very striking example, in which he examined chemically a kidney possessing a greasy appearance, he found less fat than in a kidney which was known to be perfectly healthy.

Dr. Rees considers, that it is now pretty certainly established that the greater number of cases of Kidney Disease, connected with albuminous urine, are the results of inflammation, probably of an adhesive character, affecting the organ and causing deposit in its substance, thus constituting a state which may or may not be followed by contraction. He admits that congestion may in some cases precede or even accompany this cachectic deposit, but does not consider it probable that congestion is a *necessary* antecedent to all chronic forms of the disease.

The presence of Albumen in the urine is almost always an indication of some disordered condition of the kidney, although there are a few instances where the urine is found albuminous without the presence of renal disease, as for instance, during the last hours of life, in serious obstructions to the passage of the blood through the heart or great vessels, and in hæmaturia. But Dr. Rees does not believe that dyspepsia, a full meal of animal food, or the free administration of mercury (all which causes have been described as giving rise to albuminous urine) can really produce the alleged change in the constitution of the renal secretion. In illustration of the statement that

mercury does not give rise to albuminuria, Dr. Rees gives the result of fifteen cases of persons under the influence of mercury, in not one of whom was albumen found in the urine ; and he has moreover observed cases, in which the urine contained albumen, but became freed from that substance under the use of mercury.

The tests for albumen are carefully described, but they do not differ from those which are now well known to the profession.

In treating of the PATHOLOGY of the Disease, Dr. Rees very properly throws out the suggestion, that its intimate nature is probably to be sought more in some depraved or altered condition of the blood itself, than in lesion of any organ, but at the same time admits that the chemistry of the present day is not sufficiently accurate or refined to enable us to determine the aberration from the healthy constitution of the vital fluid ; and he concludes, that "so far as our present knowledge extends, it is in the tissue of the kidney that we first trace the deviation from healthy action for the production of albuminuria."

In considering the state of the *Blood* in this disease, its most obvious and important change is of course described as consisting in the loss of its albumen ; and the deficiency of the red corpuscles, which marks the advanced stages of the malady, is accounted for by the following very ingenious theory. The fundamental propositions of this theory are : "I. In health the corpuscle is supplied with nourishment by the chyle. II. The chyle is of lower specific gravity than the liquor sanguinis in which the corpuscles float. III. In the early stages of the Morbus Brightii, the specific gravity of the liquor sanguinis is greatly diminished." The author then proceeds to argue, that in Albuminuria the chyle is of greater density than the liquor sanguinis, and therefore than the contents of the corpuscles, the consequence of which is, that as by the laws of endosmosis and exosmosis the heavier fluid passes in more slowly than the lighter fluid passes out, the chyle is unable to penetrate the corpuscles, which are thus deprived of their nutrient matter and consequently of their hæmatosine, and hence the pale and watery condition of the blood.

In treating of the state of the *Urine*, the average quantity excreted, the specific gravity, and the physical appearances are all carefully described, as also the peculiar structures discernible by the aid of the microscope, such as blood-corpuscles, epithelium scales, mucus-corpuscles, and the casts of the smaller uriniferous tubes. Dr. Rees considers the presence of oil-globules in albuminous urine to be rather a concomitant of the disease, than necessarily connected with it.

The DIAGNOSIS of this disease is attended with considerable difficulty, especially in the early stages, for the symptoms are often so inconsiderable as to escape the notice of the practitioner and even that of the patient ; nor have any certain means been hitherto discovered, to enable us to distinguish the different morbid conditions of the kidney, which, however distinct in their anatomical characters, agree in producing an albuminous state of the urine. We ought however carefully to discriminate, if possible, the *acute* from the *chronic* form of the malady : because the former, by timely measures, may frequently be cured ; while the latter too often baffles the skill of the most accomplished practitioner, and sooner or later terminates the life of the patient. The *chronic* form is characterised by a far less degree of severity in the symptoms, as compared with the acute ; and indeed so obscure is this form, that it has often been overlooked altogether, and even the anasarca, which by some is considered a pathognomonic sign, is sometimes wholly absent. The following advice is therefore very appropriate ; "Whenever cases of debility, with tendency to nausea, present themselves to your notice, it is well to inquire into the state of the urine ; and, in such cases, if you also find that the patient complains of frequent desire to pass urine during the night (even though there be no pain in the loins, or anasarca any-

where), you will often find albumen in the urine, and all the symptoms of kidney disease may manifest themselves within no great length of time." A point of great practical importance, also, is to be careful not to confound the pallor of albuminuria with the anæmic condition observed in young girls at or soon after puberty; and the only mode of drawing the distinction, is by the chemical examination of the urine.

The COMPLICATIONS of Albuminuria are treated at some length. The existence of *anasarca* and of *passive effusion* into the cavities and tissues of the body are prominently noticed, as among the most usual concomitants of the disease. Diarrhœa, which was stated by Dr. Christison to be more frequently observed in Edinburgh than in London or Paris, is now, according to Dr. Rees, a very common attendant upon the disease, as he has observed very many cases of it in his own experience. The *Affections of the Brain, of the Heart, of the Liver*, the supervention of *Bronchitis, Pleuritis, Peritonitis, Pneumonia*, and *Phthisis*, are all briefly adverted to; but we are not aware that the views adduced upon this part of the subject contain any matter for special remark.

The CAUSES of the disease are very briefly alluded to, as the author considers that they have not yet been very satisfactorily ascertained. Among the principal *predisposing causes*, however, he enumerates the scrofulous habit, and intemperance; and among the chief *exciting causes*, exposure to a cold or damp atmosphere, or the presence of any condition tending to interfere with the proper discharge of the function of the skin. The author regards the Albuminuria which follows scarlatina in rather a serious light, because he is of opinion that although it is often cured, yet it sometimes insidiously leads to severe or even fatal disease; and that, in cases which have been apparently cured, the kidney affection has nevertheless returned, and has eventually destroyed the patient.

The TREATMENT must depend upon the greater or less severity of the symptoms, upon the constitution and previous habits of the patient, and upon the acute or chronic form assumed by the disease. As a general rule, we should avoid blood-letting in every form, in all cases where the patient is anæmiated, *even though inflammatory complications of the acutest character may be present*. The treatment of the acute and early forms of the disease by Dr. Rees, does not differ materially from that recommended by other authors; but it is judicious and sensible, and consists in moderate cupping to the loins, saline purgatives, diaphoretics, the vapour-bath, and antimonials. The best form of purgative is the compound jalap powder of the Guy's Pharmacopœia, consisting of powdered jalap, cream of tartar, and a small proportion of capsicum; and the best antimonial is the vinum antimonii potassio-tartratis, in doses varying from twenty minims to half a drachm, combined with the liquor ammoniæ acetatis. The compound powder of ipecacuan may also be used with great advantage, as it will often assist in allaying irritability, and quieting the action of the heart. The use of diuretics is by no means to be recommended; and mercury, in all its forms, is to be carefully avoided in the treatment of Albuminuria. With a view to supplying red corpuscles to the blood, the use of iron is strongly recommended, more especially when we at the same time relieve the blood of its superabundant water, which may be effected by means of elaterium. The best form of iron, according to Dr. Rees, is the mistura ferri composita of the *London Pharmacopœia;* and, when the stomach will not bear this, recourse may be had to the vinum ferri, in doses of from one to three drachms, or to the ammonio-citrate or ammonio-tartrate of iron. "The great indications to be answered in chronic cases, are: I. The relieving the blood of its superfluous water; and II. Supplying it with iron to assist in the production of the red corpuscles of the blood." Astringent remedies have, occasionally, been employed with beneficial effect, being administered with the view of stopping the discharge of albumen, and so protecting the blood from farther degeneration. The best astringents are tannin, catechu, and gallic acid.

The treatment of the complications of this disease, must depend upon the nature of the organ or tissue specially attacked, and must be directed by general principles, regard being always paid to the condition of the blood, the urine, and the kidneys, which are always primarily involved.

Considering the great prevalence of Kidney Disease, accompanied by the secretion of albuminous urine; the insidious nature of its attack, and its frequently fatal termination; the numerous complications which mark its progress, or accelerate its march; the modification of treatment required by ordinary diseases, when associated with this formidable malady; and the importance of detecting its existence, if possible, in its earliest stages,—we hail with pleasure the appearance of the present contribution, by Dr. Rees, to our knowledge of the nature and treatment of these important affections, and we consider that every medical man ought to give the volume a place in his library.

Anormal Nutrition in the Human Articular Cartilages: with Experimental Researches on the Lower Animals. By P. Redfern, M.D. London, Lecturer on Anatomy, Physiology, and Histology, and Examiner at the University and King's College, Aberdeen. 8vo. *Numerous Wood-cuts.* pp. 86. Edinburgh: 1850.

This is an elaborate and able monograph, which originally appeared in detached papers in the *Edinburgh Monthly Journal.*

The Conclusions at which the author has arrived are thus stated:—

"1. That the whole of the known forms of disease in articular cartilages are connected with changes in the texture, which are essentially similar to each other.

"2. That during the progress of these changes, the cells of the cartilage become enlarged, rounded, and filled with corpuscles in lieu of healthy cells, bursting subsequently, and discharging their contents into the texture on the surface; whilst the hyaline substance splits into bands and fibres, the changed hyaline substance and the discharged corpuscles of the cells afterwards forming, in many cases, a fibro-nucleated membrane on the surface of the diseased cartilage.

"3. That these changes are alone referrable to an anormal nutrition as their immediate cause, and in no case to mechanical or chemical actions, such as attrition or digestion in a diseased secretion.

"4. That most extensive disease may be going on in many joints at the same time, and may proceed to destroy the whole thickness of the cartilage in particular parts, without the patient's knowledge, and whilst he is engaged in an active occupation.

"5. That the disease commences most frequently upon the free surface; but it may proceed from the bone to affect the attached surface, or it may take place in the middle of the thickness of the cartilage.

"6. That it is at least very doubtful, if the symptoms which are believed to indicate the existence of ulceration of articular cartilages, are not really dependent on a morbid change in the bone.

"7. That disease of the whole thickness of an articular cartilage, at particular parts, admits of a natural cure, by the formation of a fibro-nucleated membrane from the substance of the cartilage, without the occurrence of any new exudation." pp. 65.

Principles of Health and Disease: an Inaugural Dissertation of the University of Edinburgh. By David Nelson, M.D., Edinburgh, Physician to the Queen's Hospital, and Professor of Clinical Medicine in Queen's College, Birmingham. 8vo. pp. 113. London: 1850.

This Thesis reflects great credit upon the author. It is correctly written, and contains, in a well-arranged form, and within a small compass, much sound information and excellent reasoning.

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

PRACTICE OF MEDICINE AND PATHOLOGY.

TWO CASES OF ECLAMPSIA NUTANS.

The following cases of Eclampsia Nutans, recorded by Dr. Faber of Wartenberg, in the *Journal für Kinderkrankheiten* for March and April 1850, will be interesting, in connexion with the paper read by Dr. Willshire, at the Westminster Medical Society, on 30th March, and reported at p. 590 of this number.

Very little mention has hitherto been made of this remarkable affection, which evidently bears a relation both to convulsions and to paralysis. Of the German writers, only Romberg, I believe, has noticed it. I do not know whether it is identical with, or only akin to, the *paralysis agitans*, which has been noticed for some time in England, I believe by Elliotson. I will merely relate the two cases which have occurred to me, without offering any remarks.

Case i. This was a girl, aged three years, the daughter of a reduced tradesman, who managed some small agencies, but was of weak mind, and in whose family several cases of mental disease had occurred. This was his only surviving child. An elder child, a boy, had died of convulsions at an early age; but of what form these were, I was unable to ascertain. The subject of this case was at first healthy, but was rather late in her first dentition, and was also weak on the legs. She always looked pale, but was apparently healthy. About three months before I saw her, she began to complain frequently of headache, slept much, and had less appetite than usual; the tongue was also somewhat coated. Mild aperients were prescribed, but with little good effect. The child suddenly began to squint a little with one eye, and sometimes to nod with the head, especially towards the left side, as if the left sterno-mastoid muscle drew the head by starts in that direction. These bowings of the head at first occurred three times daily, and lasted some minutes each time, during which the head remained bowed. The attacks increased in number and frequency; sometimes the head fell into a series of truly alarming tremulous convulsive motions (*Zittern und Schwirren*), in which the bowing forward was pre-eminently conspicuous. The child was treated, but without success, by purgatives, baths, cold affusions, antispasmodics, embrocations, etc. It became drowsy, and was attacked, soon after awaking, with slight convulsions in the arms and legs; and on careful observation it was found, that these convulsions were on each occasion preceded by a brief loss of consciousness, lasting perhaps one or two minutes. These attacks increased, and the child is now quite epileptic. It has each week one, or perhaps two, slight epileptic attacks, instead of which there is sometimes a violent convulsive bowing of the head, without, as it appears, any loss of consciousness. It has an imbecile appearance, and its mental faculties are less developed than is usual in children of the same age.

Case ii. This was a boy, six years old, the son of a respectable citizen of this place, who enjoys excellent health, and in whose family there have not been any particular nervous or mental affections. The mother is a healthy woman. During her pregnancy, she appears to have been much alarmed by a fire which broke out in the neighbourhood of her habitation; this I merely mention, without laying much stress on it. She was only able to suckle her child for a few weeks. Having lost her milk through a violent diarrhœa, which was subdued by a somewhat rigorous diet and antiphlogistic treatment, she was obliged to employ a nurse. The nurse appears to have been

very quarrelsome and passionate, and subject to nervous attacks. Nevertheless, the child throve excellently; it cut its teeth easily and quickly, and learned to walk early. When the boy was four and a half years old, he had measles, from which he recovered favourably. At the commencement of his sixth year, he was sent to school, and gave evidence of excellent mental capacity. I was first consulted about him when he was nearly six years old. I was told, that while playing with some other boys near a large pit filled with water, he had slipped in walking over a narrow wooden bridge, and had fallen into the pit, from which he was removed with difficulty. Being quite wet, he was carried home; and, having been dried, was put to bed, where he passed several days in a continual drowsy state, without having any true febrile symptoms. Whether from the fright or the chill, he was not from this time so cheerful and lively as before. He cried out frequently in his sleep, and had disturbed rest: his bowels were costive. One day, being scolded rather severely by his father for some slight offence, he suddenly began to nod with his head, and continued to do so for two or three minutes, the face being at the same time somewhat distorted. At first this was thought to be a trick, or evidence of stubbornness; but the bowings recurred several times in the day; since which they had increased, and were often so violent, that even eighty bowings could be counted in a minute. The child henceforth wasted, and had a peculiarly decayed appearance. On seeing the child, I found all this description confirmed. The patient, generally quiet and somewhat melancholy when moving about, suddenly began to nod with the head. The head bent forward as in familiar salutation, at first at intervals, but soon more and more quickly, as if the child were violently excited; the face was also distorted. This attack lasted about two or three minutes; then the movements ceased, and the child appeared much fatigued. On many days, there was only one attack, generally at 11 A.M.; and there was sometimes an additional paroxysm in the evening. As far as I could ascertain, the child retained his consciousness during the attacks: they were not sudden, but he felt their approach, and sought something to lean or sit on. He had, for some weeks lately, become evidently weaker; he seemed pale and suffering, and had a certain expression of stupidity in his countenance.

As to the nature of the bowing: is it a partial chorea? Does the almost regularly recurring bowing of the head belong to the category of choreic convulsions, or is it a convulsion *sui generis?* It cannot be classified with epileptic convulsions, for a principal symptom—the loss of consciousness—is wanting, at least in the latter of the two cases. Does the disease proceed from the brain, and only re-act on the spinal chord, or is the latter its original seat? The most careful examination of the subject of the second case has failed to afford any explanation. The child never has pain; there is no tenderness either in the head or spine, and besides this there is nothing abnormal. The bowels are indeed sluggish, but the child has been sufficiently purged. There is no trace of worms. Friction of the nape of the neck with tartar-emetic ointment, as well as dry rubbing, have proved ineffectual; the internal use of quinine and antispasmodics has produced no improvement; cold affusions and gentle douches in a warm bath seemed to aggravate the malady. At present the child is taking iron, and seems to improve.

GRANULAR CORPUSCLES IN THE OPTIC CHIASMA IN AMAUROSIS.

At page 387 of last number for April, we gave an account of the discovery of Granular Corpuscles in the Nervous Centres in cases of Hemiplegia, by Dr. Tuercк. The *Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien*, for November and December1849, has since reached us, in which Dr. Türck describes similar bodies as having been found by him in the Optic Commissure in cases of Amaurosis. The following is an abridged translation of Dr. Türck's communication.

I have lately carefully examined the optic apparatus in three amaurotic patients in my practice, and have found in all one and the same morbid condition of the commissure of the optic nerves. The individuals were from eighteen to 24 years old, and of feeble constitution. One of the patients, (a journeyman baker), attributed the disease to the influx of the dazzling light of a glowing oven, to which he was exposed more frequently and constantly than usual, for a fortnight before being attacked. The Amaurosis was more or less perfect, in one case amounting to entire inability to perceive light; in all the cases, it had commenced with cloudiness of vision for one or two weeks, and in one, had suddenly become worse during the night. In all, there was remarkable irregularity of the power of vision. The pupil was greatly dilated in the most intense case, and in two, it was angular in one eye: it often alternately contracted and dilated when light was steadily held before the eye, but was unaffected by the change from light to shade. The motor power of the iris was not lost; yet, from paralysis of the optic nerves, the impression was not conveyed from the retina to the central organ of the motor nerves of the iris. During transient improvement of vision, the pupil was obedient to the stimulus of light. The movements of the eyeball and eyelids were normally performed. The baker had complained of pain in his eyes, at the time when he was exposed to the extraordinary influx of light. Pain in the head, and vomiting, were observed in all the cases. The connexion of these symptoms with the disease of the commissure, could not be traced in two of the cases, in which there was also chronic disease of the brain; but it was very evident in the third patient, who died at a later period, from inflammation of the spinal chord.

The optic commissure, externally, appeared normal, with the exception of slight enlargement, and a few conspicuous fawn-coloured spots on the cut surfaces of the divergent optic nerves. On being cut into, it was found infiltrated with a sero-saline fluid; its substance was remarkably spongy, and presented fawn-coloured spots. The nervous matter was partly undistinguishable, partly recognisable, under the microscope, and presented, as well as the fluid matter, a large number of granular corpuscles and elementary granules, like those which are found in cerebral or spinal inflammation: hence evidently arising from a recent process of inflammation, or at least of exudation, in the optic commissure. The morbid changes extended three or four lines along the origin of the optic nerves: the remaining part of the nerves, the retina, and the remaining parts of the eye, were healthy; so also were the corpora striata, the optic thalami, the corpora quadrigemina, and the tuber cinereum, as well as the whole base of the brain. *The Amaurosis therefore depended on a perfectly limited inflammation or exudation in the commissure of the optic nerves.*

The affection was complicated, in one case, with acute inflammation of the spinal chord, of a later date; in a second, with chronic hydrocephalus of long standing, and recent apoplexy; and in a third, with old cerebral cancer and consecutive hydrocephalus. The external and opposed surfaces of the convolutions in the two latter cases, presented signs of pressure. This would formerly have been taken as explanatory of the Amaurosis, especially in the second case, where the left optic thalamus, and the left pair of the corpora quadrigemina, had been pressed forwards and to the right side by an apoplectic clot in the left posterior lobe. But the explanation can only be found in the state of the commissure which has been described. In both patients, as was shewn both by symptoms during life, and by *post-mortem* examination, compression had existed for a considerable time, without producing Amaurosis. In other cases, also, pressure on the brain has not induced Amaurosis.

In connexion with the above remarks, I may mention, that I found a similar condition in a man, of whom I could only learn that he had been blind in one eye for several years. The left anterior part of the commissure, as well as a portion six lines in length from the commencement of the left

optic nerve (especially the latter), were atrophied, of a reddish grey colour, and contained numerous granular corpuscles and elementary granules. With the exception of slight atrophy of the remaining part of the left optic nerve in its passage to the eye, the other portions of the visual apparatus were normal.

Although the number of observations has been few, yet, as the same appearance was found in all the cases, it is reasonable to expect, that the disease of the chiasma, just described, will be in future frequently found, and will effect a change in the doctrine of the cause of Amaurosis.

[More extended observations by unprejudiced observers, are required, before this point can be considered established. In the case of the baker, retinitis was probably induced. The fawn-coloured, or buff deposit, as a result of inflammation of the retina and optic apparatus, has long since been observed, especially by Langenbeck and Wardrop; but interesting as the above cases are, they are wanting in the details of symptoms which are necessary to enable us to form a judgment upon the precise influence of the changes described, and the relation held by them as to cause and effect.]

PREVALENCE OF MEASLES, WITHOUT ERUPTION, IN PARIS, DURING THE FIRST QUARTER OF 1850.

The *Gazette Médicale* for 20th April, in the quarterly Report of the Sanitary Condition of Paris, has some interesting remarks, of which the following is a somewhat abridged translation:—

A large number of cases of eruptive fevers have lately appeared in Paris, principally since the commencement of March. Pulmonary catarrh and pleuro-pneumonia have also been remarkably common, especially among children; and, which is an important fact, though often not sufficiently attended to, there have been cases which have seemed to form the meeting-point of the eruption and thoracic affection.

The children have for several days presented all the premonitory symptoms of an acute attack of measles, or scarlatina; viz., coryza, sneezing, redness of the conjunctiva, lacrymation, angina, dry cough, and sweats towards the second or third day. In a certain number, the eruption appeared, and followed its usual course. In others, however, the disease appeared to be determined to the air-passages: some presented unequivocal spots of measles on the neck and chest, which very soon disappeared, while the lungs became engorged—a manifest proof of the identity of the disease affecting such different situations. Moreover, the bronchial and pulmonary affections resembled the external eruption, in being diffused and erratic. Bronchitis would be denoted by the existence of sonorous rhonchi all over the chest; these would be followed by crepitant rhonchi, which would sometimes spread rapidly, and sometimes almost suddenly leave one side, to appear, perhaps definitively, in the other. The pleura has been sometimes affected, but perhaps less commonly than usual.

In some cases, the local chest symptoms have disappeared, with extraordinary rapidity, under the action of a large blister;—a fact which supports the view of the *eruptive* nature of the affection. Sibilant and sonorous rhonchi have sometimes entirely disappeared, and sometimes have been heard on the opposite side of the chest. In most cases, whether the pulmonary affection were localised at once, or erratic, the usual remedies have proved of little service. General bleeding has been very useless; aided by blisters, it has brought about partial amendment, quickly followed by relapse. The Rasorian method of treatment, usually so efficacious, has given moderately satisfactory results. The most successful treatment has been by repeated emetic doses of ipecacuanha and tartarized antimony, with a moderate amount of opium. The effect of these remedies has been to free the air passages from the abun-

dant mucous secretions which obstructed them, and to promote perspiration—an important object in the treatment of a disease, apparently the substitute for a cutaneous eruption Dover's powder has well fulfilled both the indications.

It hence appears, that Paris has lately furnished a large number of examples of a disease, which is not recognised by all pathologists—*measles without eruption.* It was described by Dehaen, Gregory, Guersant, and Blache; but has been disbelieved by many. The cases lately observed can leave no room for doubt.

SURGERY.

CONTRIBUTIONS TO THE DETERMINATION OF THE SEAT OF CATARACTS BEHIND THE LENS. BY M. KERST.

In a man, aged 32, who was considered to be affected with Cataract, there was an extensive, more or less transitory, white spot behind the pupil—it might be said, on the anterior surface of the vitreous body. The flame of a candle produced an erect image in the eye; M. KERST thought he could even perceive the second inverted image of the flame in the opaque spot; but neither this nor the third image were apparent. On the other hand, the opacity became more apparent, and changed its situation as often as the light was shifted, always appearing directly opposite to the body of the flame, so that it could be perceived at all points of the posterior chamber, according as the situation of the light was changed. This could only arise from the opacity occupying the whole surface which could be perceived through the pupil, and becoming apparent from one point to another. The patient was examined by several practitioners. On dilatation of the pupil, he was found to have a so-called amaurotic cat's-eye *(Katzenauge).*

In a sound eye, when light is held at some distance from it, the rays converge, and form an inverted image of the flame on the retina; but if they are interrupted before they reach the retina (as in opacity of the vitreous body) they form a circle, which illuminates a part of the opacity in the situation directly opposite the flame. In the present case, the opacity must have been behind the lens, in the vitreous body; for if it were more anterior, somewhere in the lens itself, the circle of unconverged rays would occupy the whole extent of the pupil, and then a partial illumination, and the concomitant apparent charge of position, would be impossible. The smaller the illuminated circle is, the deeper must the opacity lie in the vitreous body. As the luminous appearance described by Purkinje and Sanson was not present, but the circle of non-converged rays which has been mentioned, the idea of an operation for Cataract could not be entertained. [*Neerlandsch Lancet*, as quoted in *Zeitschrift für die gesammte Medicin*, November 1849.]

Had the symptoms as well as the appearances been described, a better opinion might have been formed as to the true nature of this case; the "shifting spot" is one of the characteristics of glaucoma, and, combined with other symptoms, assists the diagnosis of the case. The decision not to operate was judicious.

CUTTING INTO THE PERINÆUM FOR THE DIVISION OF STRICTURE. MR. SYME'S CHALLENGE TO THE HOSPITAL SURGEONS OF LONDON.

Our readers are already familiar with the recent discussions which have arisen regarding the treatment of Stricture. In the paper before us, Mr. Syme roundly reiterates the opinion, that Strictures which are "impermeable" in London, are "permeable" in his hands; and that his "operation is founded on the fact, that there is no Stricture of the urethra which can resist the introduction of instruments sufficiently small, and guided with sufficient care." As Mr. Syme stakes his surgical reputation upon the truth of his

views, and the safety and success of his method of curing bad Strictures, we place the following remarkable challenge before our readers.

"Any Stricture which resists the attempt of a surgeon to pass an instrument through it, though impermeable as far as he is concerned, may not necessarily be so in the hands of others. During my incumbency at University College Hospital, there was admitted under my care, a Stricture of the Urethra which had proved impermeable to the diversified efforts of many gentlemen in the naval service for nine years, and finally led to the patient's dismissal as incurable. But, at the very first attempt in this case, I passed a bougie into the bladder, and, in the course of a few weeks, removed all trace of the contraction. Five months ago, a gentlemen from Ireland came over in quest of relief for a Stricture, on account of which, two years before, he had been six weeks under the care of Mr. Liston, who, notwithstanding many attempts, did not succeed in passing any instrument; and although the symptoms denoted a great aggravation of the disease during the time which had subsequently elapsed, I passed a grooved director, divided the Stricture, and was happy to learn, from a letter received to-day, that the patient 'is as well as ever he was in his life.' In the Royal Infirmary of this city, there is at present under my care, a young man who, six years ago, was dismissed from the army of the East India Company, after five years' service, as incurable, on account of Stricture. He had been under the care of various practitioners without obtaining relief, and for the last sixteen months had, once a week, passed a steel bougie fairly into the bladder, as he thought. Finding the symptoms indicative of something more than mere obstruction, and suspecting that there was a false passage through the prostrate, I carefully examined the canal, and succeeded in passing a small instrument into the real cavity of the bladder, where a stone was detected. Chloroform having been administered, I performed the requisite operation upon the small director, which had been introduced, and extracted a stone weighing *three ounces and a half*. The patient had no unpleasant symptom, and has now the prospect of being quite well in a few days. In many more cases which I could mention, the Stricture was deemed impermeable without truly being so; and perhaps those lately reported in the *Lancet* as thus regarded, might have proved no less amenable to treatment. I firmly believe that they would, and therefore feel most anxious to impress the conviction, that the alleged impermeability has no real existence.

"Since the public profession of this belief, founded upon more than twenty years' hospital practice in the largest medical school of her Majesty's dominions, seems to have had no effect in awakening the attention of London surgery, further than to elicit some incredulous sneers and flat denials, I beg to express my readiness to receive into the Royal Infirmary of Edinburgh, any patients who may bring with them certificates from a London hospital, of labouring under *impermeable* Stricture. I shall be happy to pay their expenses in coming and returning by the steamboats, which sail twice a week, and would afford the most comfortable conveyance for invalids frequently disturbed with calls to make water. They will be treated under the observation of students from all parts of the country, and the results of their cases shall be published. If any more satisfactory mode of establishing the truth can be suggested, I shall be happy to adopt it." [*Lancet*, May 1850.]

VALUE OF THE FULCRUM OF MR. GILBERT.

Mr. G. Robins has published the following in the *Lancet*. Lieut. C., R.N., had been for some months under the hands of one of our most eminent dentists, in consequence of severe suffering induced by inflammation of the angle of the lower jaw on the left side, extending to all the neighbouring parts. He was cutting the dens sapientiæ; and, as is not unusual with that tooth, great trouble and difficulty attended its passage through the jaw and soft parts.

Several attempts were made to extract the offending tooth, more especially by means of the elevator, every such attempt being accompanied with intense suffering and increased inflammation, and all failing to remove the tooth. A proposal was then made to extract the molar tooth immediately in front of the other, so as to afford more facility for the application of the elevator. Lieut. C., worn out with suffering, consented, and the key was applied; but so firmly was this sound tooth imbedded in its socket, that it resisted all the dentist's efforts to wrench it out, and, finally, the claw of the key gave way, snapping in the middle. Dispirited by so many failures, Lieut. C. returned home and sent for me. I found him in great suffering, and the whole of that side of the mouth in a state of intense inflammation, the tonsils and fauces being also involved. The gums were much bruised and lacerated.

Having seen in *The Lancet* a very favourable notice published of Mr. Gilbert's Chair and Fulcrum, and knowing him to be a highly educated surgeon, I advised the lieutenant to go with me to see him. To this he at once consented; and, after careful examinination of the mouth, Mr. Gilbert removed the dens sapientiæ (which was not carious) with the aid of a pair of forceps adapted to his patent Fulcrum, with great skill, and without being obliged to sacrifice also the other molar tooth. A few days more restored Lieut. C.'s mouth to a healthy condition; and he has since enjoyed a state of health and comfort to which he had previously been long a stranger, and is now on duty.

The difficulties experienced in the extraction of this tooth were caused greatly by its extraordinary size, it being the largest molar I had ever seen; the existence of exostoses of the fangs, which were hooked and irregular in shape; the partial covering of the tooth by the gum, and the swollen mucous membrane of the mouth; and, finally, because the tooth itself had scarcely risen above the alveolus, which, at this part, is both thick and unyielding.

In consequence of the intense and severe inflammation and swelling which existed, the patient was unable to open his mouth to the full extent, and of course this added to the difficulties attendant on the extraction.

The above is a good illustration of the tooth and the jaw. [From *Lancet*, February 2, 1850.]

OBSTETRICS.

CAZEAUX ON THE CAUSE AND MODE OF PRODUCTION OF THE SO-CALLED PLACENTAL MURMUR.

Dr. Cazeaux has published, in the *Archives Générales de Médecine* for March 1850, a memoir on the subject of the cause of the Placental or Ventral Murmur heard during pregnancy. He refers to the varying situation of the sound, and agrees with M. Depaul, that there is no relation between the place where it is heard and the insertion of the placenta. Its character also varies, sometimes consisting of abrupt sounds, separated from each other by a complete interval of rest; sometimes it is a true *bruit de diable*, having its period of commencement and increase without any interval. "In a word, it presents all the varieties of rhythm, which have been described in the chlorotic murmur. Most commonly, it is simple and intermittent; sometimes continuous, with reduplication (*bruit de diable*); and sometimes, again, simple and continued. I have not yet found it to possess a doubly intermittent type. Like the carotid murmur, it may vary its type in a few moments, presenting in succession several modifications. It also varies in pitch, not only in different women, but even in the same, and during the course of a single auscultation. It is sometimes sibilant, resembling the sound of wind passing through the chinks of an imperfectly closed door; sometimes it resembles the sound produced by the vibration of a bass chord; in other cases, it resembles the cooing of a dove."

The author next enters on an examination of the opinions which have been held, as to the extra or intra-uterine situation of the murmur. The proofs adduced in support of the view, that it is produced externally to the uterus, are, the production of a similar sound by the pressure of tumours, its non-appearance until the uterus has risen sufficiently to press upon the iliac vessels, its being heard most commonly at the lower and lateral part of the abdomen, generally on the right side, and finally, "as has been proved by Dr. Jacquemier, and subsequently by myself, by the circumstance that if, after having auscultated pregnant women in the supine position, they are placed on their knees, with their elbows resting on the ground, so that the weight of the uterus rests on the anterior wall of the abdomen, the murmur, which was before distinctly heard, cannot now be perceived." M. Cazeaux next makes some observations on the supposed intra-uterine production of the sound, as advocated by Kergaradec, Hohl, Dubois, Corrigan, and Laharpe, the latter of whom refers it to the greatly increased number of vascular currents in a given space. His opinion is thus summed up: "In a word, a liquid cannot circulate in a tube, without producing a certain sound by the friction of its molecules against the sides of the tube: the sound, however, is not perceptible to the ear when the tube is isolated, and only becomes so when an infinite number of little channels are congregated on the same point."

M. Cazeaux thus expounds his own theory of the production of the Ventral Murmur:

"The most probable opinion, to me, is, that the murmur is produced in the vessels of the posterior wall of the abdomen, most commonly the iliacs; but I think also that it depends on several causes, and not only on the pressure of the uterine tumour on the great vessels. This is, without doubt, one of the most active causes; but I am also convinced that the abdominal murmur of pregnant females, like that of chlorotic patients, is partly due to the modifications which the blood has undergone. Whatever be the theory received as to the mechanism of the vascular murmurs in chlorosis, we cannot forget the great analogy which exists between the blood in chlorosis and in pregnancy. The ventral murmur also presents an unmistakeable analogy to that of chlorotic patients. It has the same varieties in rhythm and tone; both present the same changes of existence, of rhythm, of intensity, and seem equally in-

fluenced by pressure with the instrument, or by sudden disturbance of the circulation, from violent motion or other causes.

"But it may be asked why, if, in chlorosis, the *bruit de soufflet* is heard most strongly in the cervical region, the bruit of pregnancy should be chiefly heard in the abdomen? In answer to this, I will state that the cardiac and carotid murmur is sometimes heard in pregnant women; but I allow that, in most cases, the abdominal murmur alone is heard. This is easily comprehended. It is rare for the blood to be so much altered in pregnancy as in chlorosis; the globules are not so much diminished, nor is there so great a proportionate excess of water. But if it be correct to suppose, with M. Andral, that the production of abnormal murmurs implies an advanced degree of change, it will be easily understood how they should not be heard in the carotids, where the impoverishment of the blood alone can produce them. But in the abdominal vessels, there is, superadded to the alteration in the blood, a considerable diminution in the calibre of the vessels, from the pressure of the uterine tumour; and the combination of these two circumstances produces a murmur, which they could not do if isolated."

With regard to the objection that the *bruit* in chlorosis is accompanied by a distinct impulse, M. Cazeaux remarks, that this is due to an extension of the first sound of the heart into the neighbouring vessels, which, however, is unable to reach those which are more distant: and moreover, that the cervical murmur is often unattended by any impulse.

Although the abdominal murmur is often lost when the woman is placed on her hands and knees, still this is not always the case, as has been proved by MM. Depaul, Carrière, and Cazeaux. It is very difficult, and often impossible, to prevent the uterus from pressing on some of the large arteries; and in young primiparæ, the unresisting abdominal walls keep the uterus strongly pressed against the parts situated posteriorly. The abdominal murmur is also, according to M. Beau, heard independently of pregnancy.[1] In a patient, affected with ovarian cysts, as determined by autopsy, it was impossible to place the tumour in a position where it did not press on the arteries in the pelvis, and consequently give rise to a murmur. Admitting, also, that compression is not the only cause of the murmur, but that the serous polyæmia of pregnancy also contributes a share, the latter may be supposed capable, if of sufficient intensity, of producing the murmur, even after pressure has been removed from the vessels. When the woman is placed on one side, the murmur sometimes ceases, but is sometimes continued. In the first case, the state of the blood alone is incapable of producing the sound; in the second, either the pressure of the uterus has not been entirely removed, or the alteration in the blood has been competent of itself to cause the murmur. The occasional diminution, and even disappearance of the murmur under pressure, is analogous to what sometimes occurs in the murmurs in the carotids. There is a certain degree of compression, below or above which the murmurs are increased or diminished. Moderate pressure often increases the murmur, both in the neck and in the abdomen.

In some cases, the murmur can only be heard at the neck of the uterus, by means of the metroscope of M. Nauche. In such cases, the murmur may be supposed to be produced in the hypogastric arteries, which are nearer to the cervix uteri than to the abdominal walls. Besides, the epiploon and intestines, lying between the uterus and the abdominal parietes, would be bad conductors of sound.

M. Cazeaux thus sums up: "Like M. Beau, in his excellent memoir on Arterial Murmurs, I admit that the abdominal murmur of pregnancy is partly due to the compression of the large vessels on the posterior wall of the

[1] Dr. Meigs, in his *Treatise on Obstetrics*, in speaking of the uterine murmur, says: "I have certainly heard the same sound after delivery, as before the child was born; and I have heard it, as dependent upon pressure by tumours within the abdomen." (p. 240.)

abdomen; but I believe that the change in the blood contributes, as in chlorosis, to the production of the phenomenon. Most commonly, these two causes act simultaneously; but in many cases, one will suffice."

With regard to the seat of the murmurs, in chlorosis especially, M. Cazeaux believes that all abnormal murmurs are arterial: but he does not think that the theory of their production in veins at all opposes the explanation which he gives of the nature and seat of the abdominal *souffle*. Independently of the iliac veins, the large size of, and the absence of valves in, the uterine veins, will readily allow us to suppose that the murmurs heard during pregnancy may be produced in them.

FREQUENCY OF ULCERATION OF THE CERVIX UTERI: PATHOLOGICAL VALUE OF THE TERM "ULCERATION." BY HENRY BENNET, M.D.

(From *the Lancet*, 18*th May* 1850.)

In *The Lancet* (April 20) there has appeared a paper by Dr. Tyler Smith, previously read at the Westminster Society, on the "Supposed Frequency of Ulceration of the Os and Cervix Uteri", to which I trust you will allow me briefly to reply.

I would remark, that the title of Dr. Smith's paper ought not to have been "On the 'presumed' frequency of Ulceration of the Cervix," but rather "On the pathological meaning of the term Ulceration, as applied to solutions of continuity of the organ in question." The in reality erroneous title of Dr. Smith's paper implies a negation, on his part, of the frequency of the lesions which I have described in my work on Inflammation on the Uterine Organs, under the generic head of Ulceration; whereas such a negation is not to be found in any part of his paper. On the contrary, he admits, in a dozen places, the probable frequency of these lesions, but differs from me in thinking that the term ulceration ought, in sound pathology, to be applied to them.

This is a most important feature in the discussion raised by Dr. Smith; inasmuch as, by thus correcting the title of his paper, and making it really agree with the contents of the latter, we reduce the question at issue to what it actually is, one of *words only*—viz., Are the lesions I describe in my work to be considered forms of ulceration, or are they not?

Before I proceed to the examination of this question, I must observe, that although evidently written with a very different purpose, Dr. Tyler Smith's Essay, from first to last, substantiates and supports my views. By a process of mental reasoning and reflection, if not by clinical experience, he has clearly become a convert to my doctrines respecting uterine pathology, and so fully appreciates the influence of the various causes of inflammatory disease to which the uterine organs are exposed, at the various periods of uterine life—causes which I have developed at length in my work, and which he rapidly enumerates—that he absolutely states: "*If we consider excoriation or abrasion as genuine ulceration, probably no woman ever passes through life without suffering from this form of disease.*" Surely this is outheroding Herod. Although my *clinical* experience has enabled me to say that out of 300 women presenting decided uterine symptoms, and observed in the course of two years' special practice at a large public institution, 222 offered some form or other of ulceration (*including* abrasions and excoriations), I should be very sorry indeed to make such a sweeping assertion as the above; uterine lesions, even of this description, not existing long, without making known their presence by local or constitutional disturbance at least, in the immense majority of cases. Were this assertion true, we then should find nearly every other female we meet, labouring under uterine disease, as, I hear, some practitioners facetiously state to be the case at present. I leave Dr. Tyler Smith, however, to reconcile his theory of what ought to be the state of uterine pathology with what it is clinically found to be; and will only add, that

for my part, although convinced of the frequency of inflammation, and of inflammatory ulcerative lesions of the cervix in women presenting uterine symptoms, I still have great confidence in the power of nature to carry through her operations, generally speaking, without hurt or accident. I consequently decidedly think, that the very great majority of women pass through all the trials of uterine life, without being affected either with abrasions or excoriations. Inflammatory lesions are no more *the rule* with the uterus than with the brain, the liver, or the lungs, although they may be as frequently, or even more frequently, the exception.

With regard to the main question at issue, the proper interpretation of the term ulceration, in applying it generally to all solutions of continuity of the cervix and its cavity, whether slight or considerable, I have followed both the highest authority and the bent of my own mind. I have always considered divisions and distinctions in the nomenclature of disease as useless, and obstructive to progress, unless founded on some real and therapeutically important difference. Thus, were I to write a treatise on diseases of the skin, I should throw aside, without scruple, one-half of the forms of disease now admitted, because they are merely founded on a species of botanical consideration of the visible appearance of the disease, and are, in reality, only different modes of manifestation, and different stages of development, of a malady identically the same, and requiring the same treatment.

Applying these principles of general pathology to the ulcerative lesions produced by inflammation of the cervix and its cavity, instead of describing abrasions, excoriations, and luxuriant ulcerations, as distinct morbid conditions, (which they are not,) I have embodied them all in the general term ulceration, adding, by way of explanation, "that ulceration occupying the cervix uteri may present all the various modifications which suppurating surfaces offer in any other part of the body, *from the minute granulation of a slight abrasion to the livid vegetations of an unhealthy sore.*"

That I am warranted in applying the term ulceration even to a mere abrasion, the result, not of physical violence, but of inflammation and of morbid vital action, must be evident to all who are acquainted with the classical literature of the profession. "Ulceration," says Samuel Cooper, "is the process by which *sores* or ulcers are produced in animal bodies." J. L. Petit defines an ulceration, or ulcer, "as a solution of continuity, from which is secreted pus, or a puriform, sanious, or other matter." Boyer states, that "an ulceration is a solution of continuity of the soft parts, more or less ancient, accompanied by a purulent secretion, and kept up by some local or internal cause." Any of these definitions apply quite as truly to a mere abrasion or excoriation, secreting pus or sanies, as to the chronic excavated *cutaneous* ulcer, which Dr. Tyler Smith most unaccountably expects to find on the cervix uteri.

Indeed, it is with extreme surprise that I find Dr. Tyler Smith saying, that to be able to apply the term ulceration to the cervix uteri, "we must look for a solution of continuity with a secreting surface, separated from the healthy structures, having defined edges, everted or inverted,— for an ulcer, in fact, (query, a cutaneous ulcer ?) in the common pathological meaning of the term." Had not Dr Smith commenced by stating that he is in the habit of using the speculum, I should be inclined to think that he was reasoning from analogy only; for the fact is, and he ought to know it, if his opinions are the result of practical experience, that the form of ulcers thus described is scarcely ever met with on the neck of the uterus, except as the result of syphilitic chancre or of corroding ulcer. Owing to the tenuity of the mucous membrane lining the cervix and its cavity, the margin of an inflammatory ulceration is scarcely ever, if ever, either everted or inverted. So much is this the case, that it is generally most difficult to say where the ulceration finishes, until, by the application of the nitrate of silver, the margin of the sore, or the point where the epithelium finishes, be revealed. In my

work (see page 103) I have distinctly stated, and now repeat, that "whatever the character of an inflammatory ulceration of the cervix, the ulcerated surface is *never* excoriated; it is always on a level with or above the non-ulcerated tissues that limit it, and its margin never presents any abrupt induration. Owing to this circumstance, it is always impossible to determine by the touch the precise point at which the ulceration terminates."

Thus Dr. Tyler Smith's criticism of my position respecting the frequency of uterine ulceration is founded, on the one hand, on a frivolous negation of the term ulceration to abrasions and excoriations, these lesions being strictly and legitimately within the pale of all classical definitions of ulceration; and, on the other, on the establishment of a visionary ideal of uterine ulceration, drawn from chronic cutaneous ulcers of the leg, such sores or "ulcers" not being met with at all, in reality, on the cervix uteri.

In the course of the above argumentation I have not alluded to the French writers on uterine diseases, because I did not require their assistance to establish my position. I may now, however, add, that all who have written in France on the subject of uterine inflammation, have applied the word ulceration to the lesions to which I apply it. Some have called abrasions and excoriations, exulcerations, or granular ulcerations, which I have not thought proper to do; but this is the only difference between me and them. I have thus not only reason and pathology on my side, but also antecedents, and the example of my seniors—men of the first eminence and talent, such as Lisfranc, Gendrin, Jobert, Duparcque, etc.

Dr. Tyler Smith, in common with all those who are now *vainly* endeavouring to arrest the strong current of professional feeling towards a correct and sound uterine pathology, appears to think that I, and those who adopt my views, are discarding all constitutional treatment, and directing our attention solely to local lesions. This, however, is a most unwarranted "*petitio principii*." I would ask, where is the proof? Certainly not in my work on *Uterine Inflammation*, for a large portion of it is devoted to the minute and careful investigation and elucidation of general and constitutional symptoms, to which I strenuously and continually direct the attention of my readers. Nor have I observed any evidence, in the practice of those medical men, converts to the modern doctrines, with whom I came in contact, that constitutional means of treatment are by them neglected.

Dr. Tyler Smith lays great stress on the results of the post-mortem examinations at St. George's Hospital, which seem to me, on the contrary, to completely corroborate my views. He states, that only seven instances of ulceration of the cervix (excavated with distinct edges, I suppose) have been found on the post-mortem examination of the females who die annually in the hospital. In the same paragraph, however, he is obliged to confess, that slight abrasions, discolorations, and granulations, were frequently observed. The severe ulcerations alluded to appear to have been scrofulous sores, the result of the softening and emptying of tubercular masses, or malignant ulcerations.

I cannot conclude these remarks without entering my protest, in the most forcible and energetic manner, against a statement made by Dr. Tyler Smith, at the conclusion of his paper. He says:—"At the present time, a veritable uterine panic affects the upper and middle classes of society, and every woman, with the slightest ache or discharge, is not satisfied until the peccant organ has been ocularly inspected." I have no hesitation whatever in stating, that this assertion is a libel on our countrywomen, which, I trust, has only escaped from Dr. Smith in the hurry of composition. The change that has taken place, in the arguments brought forward by those who adhere to the prejudices and errors of days which we shall soon be able, I firmly believe, to call past, is truly remarkable. Five years ago, when I published the first edition of my work, I was greeted by the observation, that Englishwomen were too modest and reserved to submit to physical examination, and that I

should only destroy my professional prospects by advancing views which required it. Now, however, that Englishwomen suffering under uterine disease are beginning to become aware that there is relief to be found, and that they need no longer be handed from practitioner to practitioner in a vain search after health; now that they show themselves willing to control agony of mind and pain of body, for the sake often of those who are dear to them, an odious accusation is thrown in their teeth, and they are told that they are ready, nay, *anxious*, to submit to uterine examinations, nearly without a cause or pretext. I can only say, that I meet with *no such females*, either in the higher or the lower ranks of my countrywomen, and that I blush for those who thus asperse them.

MANIA CO-EXISTING WITH UTERINE DISEASE.

Dr. Lever narrates (*Guy's Hospital Reports*, vol. ii, *Second Series*, p. 32), two cases illustrative of the following propositions:

1. Mania developing itself in the female, is sometimes associated with, and depends upon organic disease and irritation of the sexual organs.
2. Unless remedial measures be applied to relieve such disease or irritation, the insanity will be permanent.
3. In selecting the proper treatment, attention must be specially directed to the nature of the local disease.
4. In most cases, there is a diminution or cessation of the catamenial flux.
5. At the close of the treatment, counter-irritation in the neighbourhood of the sacrum is a valuable auxiliary.
6. By pursuing this plan of treatment, before the symptoms of insanity become confirmed, in many cases, it will be attended by success.

EXPLOSION OF A CYST OF THE CERVIX UTERI UNDER CAUTERIZATION.

A woman, aged 23, the mother of two children, had, on the anterior lips of of the os uteri, a sessile tumour, of the size of a small nut, firm, elastic, not fluctuating, not tender to the touch, and having the same colour as the surrounding parts. After various measures had been fruitlessly tried, it was resolved by MM. Marjolin and Melier to apply the actual cautery. M. Melier applied the iron at a white heat, when the tumour burst with a loud report, showing its cystic character. A stringy fluid, resembling white of egg, exuded. The patient regained her health, which had been very bad since the tumour appeared, from the pain in the hypogastrium, loins, and vulva.]*Mem. de la Société de Chirurgie*, t. i, p. 293.]

REPORTS OF SOCIETIES.

WESTMINSTER MEDICAL SOCIETY.

Saturday, February 23, 1850.

Edward William Murphy, M.D., President, in the Chair.

Foreign body in Œsophagus, simulating Disease of the Brain. Dr. Routh related the following case. It was that of a young lad, aged about 13, who had suffered from head symptoms more or less since his birth. Indeed, he had had acute hydrocephalus when an infant. The symptom which chiefly annoyed him was intense headache, coming on at irregular periods. Lately, however, he had been much better in this respect. On the 24th of December last, it appears that he was playing with some of his comrades, having in his mouth a piece of a spectacle frame made of bone. The piece was right angled, consisting of about one-quarter of the ring for the glass, with the adjoining portion, about one inch in length, at one end of which was a piece of metal remaining, originally the rivet. This, in a moment when he was not aware, he swallowed. He stated at the time, that he felt as if something was sticking low down in his throat, but the feeling soon disappeared, and he thought nothing more of it. Three days afterwards, hæmoptysis came on. The blood brought up was small in quantity, about a teaspoonful, intermixed with frothy sputa ; the latter continued for several days afterwards, streaked with blood. At the same time, he complained of a dull heavy pain deep in the thorax, beneath the upper part of the ensiform cartilage, with occasionally a pricking sensation in the neighbourhood of the larynx. The head symptoms now again developed themselves with increased severity. There was intense headache, increased in the recumbent position, sleeplessness, loss of memory, and occasional delirium, especially at night. This was accompanied with a great feeling of weakness, and he was unable to stand upon his feet. The pupils were dilated, the face flushed, the pulse much accelerated ; but there was no vomiting, and the intellect was ordinarily, except during delirium, quite clear. There was slight bronchitis, indicated by occasional sonorous and sibilant rhonchi, and large crepitation. The right clavicle was duller on percussion than the left, and the respiration was weak. Above the clavicle and over the supra-spinous fossa, the reverse was the case, and the expiration on the left side was also proportionally too loud. The difference in dulness was, however, by no means well marked. No abnormal sounds were heard over the trachea and larynx, nor was his voice affected. Towards the beginning of January, Dr. Routh first saw him, when he was enabled to make the above observations. Considering the case as one of tubercle of the brain, probably complicated with some acute attack and with perhaps incipient phthisis, he ordered him to be cupped to ʒvi, to have a blister applied the next day to the nape of the neck, and to take some drastic purgatives. Two other blisters were subsequently applied. The urine was natural in colour, sp. gr. 1016, acid, with some excess of phosphates; no albumen. Head to be shaved, and cold lotions applied. Under this treatment, he so far recovered in about seven or eight days as to be able to sit up. The cough had disappeared. Pulse about 90. The head symptoms were almost quite gone, he was able to walk, and the only disagreeable feeling he complained of, was unusual warmth, so that he could not bear a fire in his room. After a few days, he became again delirious, and complained of intense pain in the hepatic region, which was also tender on touch. He was now cupped on this part to ʒiv, and a mercurial purge was given. He was again able to walk about, and seemed comparatively well in a couple of days, and continued so. On the 22nd of February, he became again

delirious, and suddenly very faint and sick. This was soon followed by the vomiting of a large quantity of pus and blood (almost 0j.), in the midst of which was the piece of bone before described. The next day, however, all the symptoms had disappeared, and excepting a feeling of weakness, he stated that he felt quite well. Dr. Routh concluded from the above history, that the foreign body must have lodged somewhere in the œsophagus, and not fallen in the larynx. The body was too large for this: moreover, it could not have been lodged in or near it, else more urgent laryngeal symptoms would have been produced. Had it passed into the stomach, it would have been in part digested; and in this case Dr. Routh was at a loss to understand, how and where this large quantity of pus should have been produced, and retained for so long a period in the stomach. The case was interesting as an eccentric simulation, by a foreign body in the œsophagus, of symptoms completely resembling local and cerebral disease; the imitation being also rendered more perfect by the relief afforded by the treatment.

Connexion between Gout and Rheumatism. By Dr. A. B. Garrod. Many physicians consider Gout and Rheumatism as diseases so closely allied, as to be merely varieties of the same; others, as differing essentially from each other; while a third set believe, that although the well-marked attacks of acute Gout differ widely from those of acute Rheumatism, yet the two diseases may, as it were, imperceptibly merge into each other, so that, in a given case, it may be impossible to diagnose between them. The object of this paper was to point out the differential diagnosis.

Gout is a disease of advanced age; rheumatism, of youth. Gout is more common among men; rheumatism affects both sexes alike. Gout, at first at least, attacks the plethoric, and those who live high; rheumatism, generally, the debilitated from any causes. Gout is frequently hereditary; rheumatism, if at all so, incomparably less so than gout. The exciting causes also differ. Gout is induced by high living, certain indigestible food, or by local injury in those strongly predisposed; cold is the principal exciting cause of rheumatism. The rich are more subject to gout; the poor to rheumatism. Gout frequently presents premonitory symptoms, affecting the digestive organs, which is not the case in rheumatism. Gout attacks the small joints; rheumatism, the larger. In gout, one joint, generally, only is affected; in rheumatism, many. In gout of long standing, the large joints may be attacked, and also more than one; sometimes, again, in rheumatism, the smaller joints are involved. In both diseases, the affection of the joints is accompanied by pain, redness, and swelling; but in gout, the pain is generally more severe, and the redness and swelling greater than in rheumatism. In gout, we have œdema and subsequent desquamation, which do not occur in rheumatism. The fever in gout is proportioned to the local inflammation; but it greatly exceeds it in rheumatism, and there is frequently profuse sweating, of an acid character. Metastasis rarely occurs in acute gout, and when it does, the brain or stomach suffers, the heart seldom or never; in rheumatism, the heart is frequently inflamed, and the secondary affection becomes the most important. Chronic rheumatism is more frequent than chronic gout; the latter is frequently accompanied by the secretion of a milky fluid, which constitutes chalk-stones or tophaceous deposits. Their composition is peculiar, consisting almost entirely of urate of soda, and sometimes phosphate and carbonate of lime. In the fluid state, the needle-like crystals of the urate of soda can be readily detected under the microscope. They are met with on the joints of the hands and feet, which they distort, and even dislocate, also in and around the sheaths of tendons, and even in the cancellous structure of the heads of the bones. (Specimens, one weighing two ounces when fresh, were exhibited.) Colchicum possesses an almost magic power in relieving the pain in gout, but is not attended with such marked benefit in the acute form of rheumatism. There are,

however, a class of cases, in which, even with the utmost care, the diagnosis cannot always be made. These are called rheumatic gout; and it would seem either that the patient suffered from both diseases at once, or that the two merged into one. Dr. Garrod considered it a matter of great interest to ascertain the true nature of these cases, and to find out whether or not cases of true gout and those of rheumatism may not present similar, and almost identical symptoms, and yet in their real nature be quite distinct. In a paper read before the Medical and Chirurgical Society, Dr. Garrod had proved the existence of uric acid in the blood; in the healthy fluid, traces of it only could be found, but in pure gout it was greatly increased, so that from 1000 grains of serum it could be crystallized and weighed. It could also be procured in the form of urate of soda. This was not the case in acute rheumatism, and in that disease no more uric acid was found than in the healthy fluid. This, then, formed a marked difference between the two diseases. Uric acid, in Dr. Garrod's experiments, was abundant in the blood in cases presenting symptoms of true gout, deficient in those of well-marked rheumatism. This he had lately used as a test of the two diseases. A labourer being admitted into the hospital with a complaint in one hand, which had been previously treated as rheumatism, but presenting characters of gout, as Dr. Garrod supposed, he directed a small quantity of blood to be drawn, and discovered uric acid in abundance. The man afterwards said that he had had a similar attack in the toes, and that he could at any time bring on an attack by drinking beer freely. The plan for detecting uric acid in the blood, detailed in the paper read before the Medical and Chirurgical Society, being very difficult, Dr. Garrod recommended the following, as being more simple: He takes a small quantity of blood, say from half an ounce to an ounce, in a wide tube or small glass, and allows it to remain for some hours, to separate into clot and serum. The serum is then decanted, and from half a drachm to a drachm put on a watch glass, then acidulated with five minims of acetic acid, and a fibre of hemp from a piece of linen or tow introduced. In about forty-eight hours, when the serum has become solid from evaporation, if uric acid be present, the fibre will be covered with crystals of uric acid in the form of rhombs: an idea of the amount of uric acid present may be obtained from the number of crystals. (A drawing of the fibre covered with the crystals was exhibited.) That these crystals are uric acid, can be proved by adding a little water, when, by care, the fibre can be removed with a small pair of forceps, with the crystals adhering to it. Nitric acid and ammonia will at once determine their nature, by the production of the murexide or purpurate of ammonia. Dr. Garrod then mentioned, as an indication of gout, the presence of chalk-deposits in the ear, a sign he has often observed. Sir C. Scudamore gives the tophaceous deposits as being only ten per cent., but Dr. Garrod had met with them in the ear much more frequently,—so much so, as in chronic cases to form a valuable sign of diagnosis. He had himself often diagnosed the disease from this mark alone, and found his opinion confirmed afterwards by the discovery of uric acid in the blood. In many chronic cases of gout, the condition of the urine will aid the diagnosis; and when there are tophaceous deposits, the kidneys appear to have lost the power of excreting uric acid, so that the urine is at all times free from lithic deposits. When the chalk-stones are forming very freely, he had often found that not 1-100th of a grain of uric acid was eliminated in the urine in the twenty-four hours. At the same time, the urine may present an acid reaction.

Dr. Snow regretted that Dr. Garrod had not explained the *reason* why the kidneys did not separate the lithic acid from the blood, and thus prevent a fit of the gout. Dr. Garrod had said, that the kidneys did not appear able to effect this elimination; but he (Dr. Snow) thought that this inability did not arise from mere local disease of the kidney, but that some constitutional cause was present. Might not the lithic acid remain in the circulation, from

the want of ammonia to combine with it? Phosphate of ammonia was a valuable medicine in the treatment of gout. Might it not act by the ammonia combining with the lithic acid, and producing lithate of ammonia? Colchicum, in acute rheumatism, was often useful, when given freely, in cases which had been called sthenic. In the country, among strong labouring men, he had seen half a drachm of the wine of colchicum seeds given every four hours, until it produced violent catharsis and vomiting, attended by much depression. A remission of the symptoms followed these effects.

Dr. Ross, in his own person, had found no good effects from colchicum in the first attack of gout, though he persevered in its use for three weeks. On adding the bicarbonate of potash and morphia to the remedy, however, it immediately afforded him relief. In his case there was no uric acid in the urine, the specific gravity of which was about 1012. How did the uric acid get out of the blood during the attack? He had found much benefit from a local liniment, consisting of two drachms of distilled vinegar, two ounces of colchicum wine, and eight grains of morphia, applied by means of a piece of lint to the affected part.

Dr. Lankester, Dr. Daniell, and others addressed the Society; after which Dr. Garrod replied to the criticisms of the various speakers.

Saturday, March 2, 1850.

Edward William Murphy, M.D., President, in the Chair.

Acute Synovitis of the Knee-joint in an Infant during Dentition. By Mr. Gordon Bailey. The subject of this case came under the notice of Mr. Gordon Bailey on the 8th of January. There was great thirst, heat of head, irritable bowels, hot skin, and the usual precursors of teething. These symptoms were succeeded by drowsiness, and a tendency to sickness of the stomach. The child was apparently very much out of health; its skin was pale and flabby; the folds between the thighs and vulvæ were very much chafed; its alvine secretions were dark and fetid, and it was very irritable. The bowels were opened by small doses of mercury with chalk and rhubarb; the gums were freely divided; the head was ordered to be frequently sponged with vinegar and cold water, and the body was placed in a warm bath, and some sudorific medicine was prescribed. The child was relieved by this treatment, and continued to improve for a few days, when the symptoms again supervened: the gums were much swollen, and the child was very irritable. The gum-lancet was again used. Small doses of sulphate of magnesia and nitrate of potash were prescribed, which had the effect of bringing away some watery stools, after which the child became more lively. On the 12th of January, the left knee began to swell: it was large and white on the following day, and the integuments presented the shining appearance of phlegmasia dolens, without, however, any of the excessive degree of pain attending that affection. The child was exposed to no accident or cold, and had had great care bestowed on it by its parents and nurse. The brother of this child is also very delicate, cutting his teeth with great disturbance to the system, such as congestion of the brain, enlargement of the cervical glands, etc. The limb was ordered to be kept quiet, and to be fomented frequently with decoction of poppies, etc. The bowels were opened, and the child supported by isinglass dissolved in milk. This palliative treatment was judged most suitable from the weak state of the child, and the swelling of the knee was looked on as constitutional, having for its exciting cause the process of painful dentition in a strumous habit. Mr. Hancock, who saw this case in consultation, also concurred in this view; and it was agreed on to procure absorption of the fluid, if possible, by the application of tincture of iodine in the neighbourhood of the joint, and also the internal exhibition of iodide of potassium. This treatment was continued for nearly a week. In the interim the child cut two teeth, when the irritation became much less: however, the limb did not appear to get smaller. Fluctuation became more dis-

tinct; and a red spot, at the side of the joint where the integuments were thin and soft, showed were the matter would soon escape. After this spot had been poulticed for two or three days, an incision was made, and about two ounces of pus flowed out. The discharge continued some days. The limb was placed in a moulded gutta percha splint; water-dressing was substituted for the poultice, and the use of cod liver oil commenced. The discharge ceased after seven or eight days; the four incisors came up, and, with the latter, all the restlessness and sympathetic disturbance ceased; the knee has assumed its former size and shape, and there appears to be no stiffness or impediment to motion, for the little patient flings the legs about as if nothing had occurred.

This case derives its chief interest from the fact, that it occurred in so young a subject. Synovitis in young children, as a complication of dentition, is not described in any of the works on Diseases of Children; and Sir B. Brodie, one of the highest authorities on the subject of Diseases of the Joints, in speaking of the inflammation which begins in the synovial membrane itself, and is not communicated to it from other textures, says, that "the disease very seldom attacks young children, but is frequent in adult persons."

Pathology and Treatment of Delirium Tremens. By Dr. James Bird. [This paper is embodied in the Memoir published at p. 419 of last number.]

Saturday, March 9, 1850.

Edward William Murphy, M.D., President, in the Chair.

Death from Hæmorrhage into the Bladder. Dr. Wardell exhibited a diseased bladder, with the left ureter and kidney attached. The deceased was a patient of Dr. B. Smith of Kensington, by whom he was requested to make an examination of the body. George Emmerton, a farm labourer, 73 years of age, of middle stature, and well-developed muscular system for his time of life, but pale and sunken in the features, complained, on the 26th of January, of frequent and very painful desire to micturate, followed by the passing of only a few drops, chiefly of blood. The catheter passed without difficulty, and, on entering the bladder, it felt as if penetrating a loose and easily lacerable coagulum, or a thick viscid substance. No fluid escaped, except a little blood. Pulse 80, weak, and the countenance was blanched. In March last, the deceased had injured the left hypogastric region, by running forcibly against the corner of a low door. During the six weeks previous to his decease, the urine was mixed with varying quantities of blood, which increased in quantity for the last ten days of his life. He sought no medical advice previous to calling in Dr. Smith, on the 26th. Three weeks before his death, he had been an inmate of the Middlesex Hospital, for hydrocele. He was tapped, and speedily recovered. On the morning of the 27th, the catheter was again passed, and it still seemed to pass through some substance offering a slight resistance. Some fluid dribbled away, consisting of blood and urine. He complained of no pain, nor desire to micturate. The pulse was weaker, and the general symptoms of a more alarming character. He took, every three hours, doses of lead, opium, and acetic acid. In the evening, he was much in the same state. The following morning (28th) he was reported to have slept continuously during the night. The bowels had been freely opened. The pulse was smaller and quicker. Towards morning he had a fit, apparently of an epileptic character. During the day he had several fits of a similar nature; and in most of these, the facial twitchings were very considerable.

The *post-mortem* inspection was made fifty hours after death. The bladder was enormously distended, and its colour of a dark pinkish hue, evidently imparted by its contents. On introducing the catheter, no fluid passed; consequently a puncture was made high up in the lateral aspect of the organ, when a pint of clear urine was removed. Another pint of fluid was thus

taken away, but this partly consisted of blood. Other four and a half pints of blood, partly fluid and partly in dark, easily-broken coagula, were removed. On carefully introducing the hand, a soft, irregular, roughened surface was felt, extending over a considerable space on the left side, and near the sphincter vesicæ. On further exploration, a small orifice, admitting the little finger, could be felt, opening into a cavity, apparently of sufficient size to admit a small orange. On slight pressure, two or three ounces of blood flowed from this orifice. By turning the viscera aside, both ureters were brought into view. The left was tensely distended, and nearly as thick as the little finger; a small slit was made near its union with the kidney, and the contained fluid was found to consist of limpid urine. A gum catheter was straightened, and made, without any obstruction, to pass out at the uretral orifice into the bladder. The right ureter was not at all distended. The bladder was then removed; and, on its being freely laid open, extensive disease was manifest, consisting of considerable thickening, at some places to the extent of seven or eight lines, and presenting an ulcerated surface, not covered with much purulent matter. On manipulation, no very notable hardness was felt, but there was induration in some parts. The sacculated cavity spoken of, was found to have a lining membrane possessing all the characteristics of the bladder when in a healthy condition. The prostrate gland was healthy. On careful examination of the diseased mass, no bleeding orifices could be traced. The left kidney was much smaller than the right. On being cut open, its pelvis was distended with clear urine. The calices and infundibula were considerably dilated; the cortical and tubular substance greatly absorbed; the papillæ ill-defined. Right kidney perfectly healthy, and of the normal size.

On first examining the morbid product, from the considerable thickening of the bladder at the seat of ulceration, the blueish red, roughened surface, the induration felt in several places, the streaks of purulent matter, and other features, in no slight degree simulating carcinoma,—it was not unreasonable to deem it a true instance of ulceration of the viscus. There were certain negative facts opposing such opinion, especially the unaccompaniment of general cachexia, the absence of pain throughout the progress of the complaint, the healthy condition of the adjacent organs, some of which are almost invariably cancerous when carcinoma of the bladder exists, especially the rectum, the prostrate gland, and vesiculæ seminales in males, and uterus in females. Sometimes the sub-mucous tissue of the vesical parietes at the fundus, or near the neck, was the first seat of the malignant change, and the neighbouring organs were found of normal character; but such instances are very rare, and constituted mere exceptions to a general rule. The next particular was the orifice and cavity, spoken of in the account of the *post-mortem*. On laying it open, the lining membrane of this sacculated pouch was found quite healthy. A condition of the viscus resembling the one now seen on the table, had, by some authors, been termed vesical hernia; by others, a diverticulum. A diverticulum might be congenital, or the result of disease. The manner in which this had been formed was undoubtedly by disease; by the apposition and ultimate union of the ulcerated edges, which had gathered up a fold of the vesical wall, and the orifice had been kept patulous by the passage of the urine to and from the bladder. On placing portions of the diseased mass under the microscope, none of the caudate, nucleated cells, so indicative of carcinoma, could be detected; and Mr. Bowman could not detect the true cancerous cells. Dr. Wardell, therefore, considered the specimen as simple hypertrophous ulceration, where the thickening, from long-continued disease, had become considerable. With regard to the extent of hæmorrhage, a large quantity of blood had been poured out from inconsiderable vessels: on careful examination, it was found, that none of the larger branches had been eroded.

Connexion between Uterine and Ovarian Disease. By Dr. Tilt. [This paper was published in our number for April, p. 347.]

Dr. Henry Bennet had listened with much pleasure to Dr. Tilt's paper, the great merit of which consisted in its placing in a very strong light the pathological connexion that really existed between the uterus and the ovaries. Inflammation, no doubt, often extended from the uterus to the ovaries, as he (Dr. H. B.) had shewn in his work on Uterine Inflammation; whilst in Ovarian Disease the uterus and its neck were so frequently also the seat of inflammation, that it was of the greatest importance to narrowly investigate the state of these latter organs. Indeed, he had repeatedly found, that by curing chronic disease of the uterus or cervix uteri, he had materially contributed to arrest morbid action in the ovaries. He did not, however, think that when inflammatory disease existed in the neck of the uterus alone, a similar morbid condition was often developed in the ovaries sympathetically or by metastasis. He thought that in these cases the ovaries were nearly always affected by "extension of tissue", that is, by its extension from the neck to the body of the uterus, and from thence to the lateral ligaments and ovaries. He would also remind his hearers, that pain in the ovaries and their vicinity, as also tenderness on pressure, were nearly invariably characteristic of inflammatory ulcerations of the neck of the uterus, and *not* of acute or subacute ovaritis. Owing to some inexplicable cause, the pain produced by ulceration of the neck of the uterus was very seldom experienced in the real seat of the disease, but at a distance, in the ovarian regions. The pains appeared with the ulceration, lasted for years along with it, and disappeared with it, scarcely ever leaving behind any evidence of Ovarian Disease.

Dr. Snow Beck remarked, that he had looked for the erectile tissue said to exist in the cervix uteri, but had not been able to find it. With care and patience, it was easy to trace the layer of erectile tissue along the side of the vagina, and to follow it to its termination at the upper part, but he had not been able to discover any erectile tissue in the cervix uteri. Referring to the pain which existed a little above the inguinal region in affections of the cervix uteri, which pain had been called ovarian, he considered this a most mischievous appellation, as it led to erroneous views in the pathology and treatment of the diseases of which it was an index. The pain referred to was a painful affection of the ilio-inguinal nerve. And that this was the case was proved, 1. By the course of the pain; for although it is described as located at the lower side of the abdomen, yet on careful examination it will be found to commence in the lumbar region, pass round a little above the crista of the ilium, and thence downwards and forwards to the inguinal region; 2. By the situation: as on exercising gentle pressure with the hand, the patient informs you that the pain is not deep in the pelvis, but very near to the hand; whilst pinching the integuments gives no inconvenience, and shows that it is not situated there; 3. By direct experiment; as by placing the fingers on the cervix uteri and exercising gentle pressure, the pain is increased along the whole course of the nerve, but especially at its distribution on the lower part of the abdomen, or where the pain is chiefly complained of.

These facts were readily understood by a reference to the anatomy of the uterus. We must remember, that the uterus is supplied by tubular nervous fibres, or branches from the spinal nerves, as well as by gelatinous nervous fibres derived from the sympathetic nervous system; and that the branches of the spinal nerves—the tubular fibres—are derived from the lumbar plexus, pass to the lumbar ganglia, from thence to the hypogastric plexus, and finally, in company with the sympathetic fibres, reach the uterus. On any affection irritating these fibres, the irritation was carried upwards to the lumbar plexus, and thence reflected in the form of pain along the different nerves derived from this plexus, *i. e.* upon the lower part of the abdomen, over the hips, and along the muscles on the inner part of the thighs. The situations of these reflected pains were most important as a means of diagnosis in disease. For instance, the pain in the lumbar region,

and along the nerves derived from the lumbar plexus, indicated an affection of the uterus, the pain in the sacrum and along the nerves derived from the sacral plexus, indicated an affection of the vagina and not of the uterus, as has been so generally stated. Nay, further, the portion of vagina affected was exactly indicated by the seat of the pain in the sacrum. Affections of the upper part of the vagina causing pain in the upper part of the sacrum, and affections of the lower part, caused pain in the lower part of the sacrum. These facts ought to cause some to hesitate, before they attributed everything to affections of the neck of the uterus, and to pause on the improper haste with which they submitted females to instrumental examination without sufficient reason.

That inflammation of the ovaries and uterus sometimes existed together, was a fact which could not be denied; but considering the numerous cases of inflammation of the uterus which occurred in London during the year, and the rarity with which they were met with together, he considered it must be a very exceptional case. And even then, it was a question whether it was not a mere coincidence, without any connexion existing between the two.

Dr. Snow Beck stated, in reply to Dr. Sibson, that the ovaries were chiefly supplied by nerves from the renal plexus, which passed down in company with the spermatic artery. Sometimes, however, a branch passed from the uterus to the ovaries. The uterus was chiefly supplied with nerves from the hypogastric plexus, which plexus was composed of sympathetic nerves, and branches of spinal nerves derived from the lumbar plexus.

Mr. Nunn said, that the ovaries were supplied with branches of the sympathetic, from the sacral ganglia accompanying the uterine artery: and *not only* by offshoots from the renal plexus. He thought that Dr. S. Beck was in error, when he said that pain extending down the thigh was indicative of vaginal and not of uterine disease; when present in uterine disease, it depended upon the uterine nerves being connected with the sacral plexus. The sacral ganglia were connected on the one hand with the uterus, and on the other with the sacral spinal nerves.

Dr. Snow Beck asked, how it happened that the hypogastric plexus left the uterus and pursued a separate course round the pelvis, if, as Mr. Nunn stated, the sympathetic nerves always accompanied the arteries?

Saturday, March 16, 1850.

Edward W. Murphy, M.D., President, in the Chair.

On Diseases of the Nervous System. By Dr. Semple. [This paper is published at p. 448 of our number for May.] Dr. Sibson, Dr. R. Chambers, Dr. Daniell, Dr. Webster, Dr. Snow, Mr. Hunt, and Mr. Wing, made speeches more or less bearing upon Dr. Semple's paper.

Saturday, March 23, 1850.

Edward W. Murphy, M.D., President, in the Chair.

The Entrance of Air by the Open Mouths of the Uterine Veins, Considered as a Cause of Danger and Death after Parturition. By Dr. Cormack. The paper consisted of three parts:—1. The various effects caused by the entrance of air into the veins, and the appearances found on dissection. 2. Statement of facts, proving that the entrance of air by the open mouths of the uterine veins may cause dangerous symptoms, and even death. 3. Suggestions as to the prevention and treatment of such accidents after parturition; with remarks upon the precautions required in injecting the uterus after delivery for uterine hæmorrhage. The opinion, that the entrance of air into the uterine veins might be a source of danger and death after parturition, had been enunciated by Legallois, in 1829, and subsequently by Ollivier; it had likewise been supported by Dr. Cormack, in his *Graduation Thesis*, published at Edinburgh in 1837. Dr. Cormack had attended cases, in which air had been drawn into the womb after delivery by the sudden

relaxation of the organ; and occurrences of this kind, he supposed, must be frequent. Dr. Cormack quoted Dr. Meigs' very graphic description of the way in which air was often drawn in, and then expelled with noise by the womb after delivery. Dr. Cormack wished to prove, that if any impediment existed to prevent the exit of the air which had been drawn in, it must, when the uterus acted, be thrown into the large orifices of the uterine veins, provided they were not secured by coagula, or by the apposition of their parietes from contraction of the organ. He also showed, by anatomical facts, and by referring to the experiments made by Dance, that the communication between the cavity of the womb and the current of blood in the vena cava inferior, was direct and easy, and that air, once introduced into the uterine veins, must soon be carried to the right auricle of the heart; there, if in sufficient quantity, to cause frothing of blood, aeriform distention of the right side of the heart, obstruction of the pulmonary artery, and congestion of the pulmonary capillaries. Cases of this kind had actually taken place. One had been published by Lionet, and another by Wintrich. A case had also been published by Dr. Bessems, in which air had been thrown accidentally into the uterine veins, when injecting the uterus to arrest hæmorrhage. The woman died suddenly with symptoms of suffocation, and the right side of the heart was found distended with air. Dr. Cormack showed, by a detail of experiments which he had performed, and also by cases, that the entrance of air into the veins, even in considerable quantity, was not necessarily fatal. A case, communicated by Sir B. C. Brodie to Dr. Cormack, illustrated this fact. The general treatment for uterine hæmorrhage, by inducing contraction of the uterus, also plugging, would be the means by which the entrance of air into the uterine veins would be prevented. Should the accident occur, and the circulation and respiration become affected, and asphyxia be imminent, it would be necessary to unload the heart and pulmonary capillaries, by taking blood, following up the advantage so gained, by aspersion of the face with cold water, the application of stimulating embrocations, sinapisms, etc., and the internal use of various stimuli. Dr. Cormack stated, that in a case which he had watched for some hours after the accidental entrance of a large quantity of air into one of the veins of the neck, no advantage was got from stimuli, till the heart had been somewhat relieved by venesection. This is the case which occurred at Barnes, in 1848, and an account of the inquest on which appeared at the time in the *Lancet*. In some cases, little or no treatment might be required. If the air was in small quantity it would be absorbed, if the patient survived a sufficient time, and no bad consequences might ensue. At the same time, in some animals experimented on, Dr. Cormack had found, that though they recovered from the immediate danger, they ultimately died from pneumonia. The cases mentioned by Dr. Simpson, in a communication to the late Dr. John Reid, and published in his collected Memoirs, were examined, and stated to belong to a different class from those of Bessems, Lionet, and Wintrich. Letters were read from Dr. Collins, of Dublin, and from Dr. Lever, of London, to Dr. Cormack. The former knew of no cases of death from air entering the uterine veins; the latter had seen three.

Saturday, March 30, 1850.

Edward Wm. Murphy, M.D., President, in the Chair.

On Eclampsia Nutans, or Salaam Convulsion. By Dr. Willshire. The author stated, in his introduction, that of this peculiar malady of children, only four well-authenticated and detailed cases were on record;[1] and for these, and our chief information concerning the affection, we were indebted to Mr. Newnham, of Farnham.[2] He (Dr. Willshire) intended to add another

[1] Two additional interesting cases, detailed by Dr. Faber of Wartenberg, will be found at p. 569 of this number.

[2] Mr. Newnham's paper appeared in Dr. Clay's *Obstetric Record*, a periodical which has been discontinued.

case to the above; it had occurred in his practice at the Infirmary for Children, in an infant six months old. The primary, essential, or pathognomonic sign of the disease in question, is a peculiar "bowing" forward and downward of the head, sometimes almost to touch the knees: this progressively increases in frequency and severity, until the motion of the head becomes a quick "nodding," repeated even as many as one hundred and forty times during the day, as in one of Mr. Newnham's cases, and in his own, fifty times. Sooner or later, this so-called "Salaam Convulsion" becomes complicated with more general automatic movements, sometimes of the epileptiform, at other times of the tetanoid variety or type. The more severe attacks of the "bowings" are generally preceded by sleep; and it has been noticed that their severity has been in proportion to the depth and intensity of that sleep. As the disease progresses, paralysis occurs either in the form of paraplegia or hemiplegia, and, finally, complete mental imbecility or idiocy follows, or so severe a shattering of the intellectual element, that it is recovered from but slowly and with great difficulty. The case which had occurred to the author of the paper differed in some important particulars, however, from those related by Mr. Newnham. It agreed in the following points, viz.: in the peculiar movement of the head; in that movement being observed to occur immediately after sleep, and never, it was believed, during the somnolent condition; in that movement becoming allied, during the progress of the malady, with an intercurrent form of general convulsive or automatic action: in the marked effect which appeared to be produced upon the intellectual powers. It differed in the following particulars, viz.: in not being accompanied with paralysis in any form; in not being followed, so far as could be judged, by permanent injury to the intellectual element, or the occurrence of a fatal result; and in being apparently influenced by what seemed to be a right mode of treatment. The therapeutic means chiefly put in force were, the application of blisters behind the ears, keeping the bowels relaxed by castor oil, and the internal administration of the iodide of potassium and the disulphate of quinine. After entering, with some detail, into the pathology of the disease, and its relation to presumable centric and excentric causes in respect to the nervous centres and the peripheral nervous system, the author stated, that he considered it probable, that the disease was purely centric in its origin, having its first seat in the sensorium, or in those important parts placed between what are termed, by Mr. Solly, the "hemispheric ganglia" and the top of the spinal chord; and that afterwards the lower, or non-sensorial, portion of the spinal apparatus was affected, as proved by the general automatic movements being, in some cases, of a decided tetanoid character. In others, these movements were distinctly epileptiform; and, moreover, hemiplegia had followed; the former circumstance still further indicating, as the seat of mischief, the assemblage of ganglionic centres between the cerebrum and spinal chord; whilst the latter and the supervening affection, or obliteration, of the intellectual powers, appeared to prove the secondary involvement of the great "hemispheric lobes." In one of the cases alluded to by Mr. Newnham, there was reason for believing that the hemispheres, or lateral lobes of the cerebellum, were specially included in the cycle of lesional disturbance. As to what may be the nature of this disturbance, wheresoever it may be primitively situated, and whatsoever it may secondarily draw within its sphere, much doubt must exist, seeing that no post-mortem investigations had hitherto been made. Mr. Newnham inclined to the opinion, that the essential character of the malady was inflammatory action, of a weak and strumous nature, of the membranes investing the medulla oblongata, afterwards extending to other parts. Dr. W. thought that it may be a change in the circulation of the minute vessels, and this of a scrofulous character; following upon which change, there occur red alterations of structures, deposits upon or in them, and conditions in the nutritive formation and reparation of the nervous centres, not only little compatible with

the performance of their normal actions, but, in truth, causative of others intensely abnormal in their character.

SATURDAY, APRIL 6, 1850.

EDWARD WILLIAM MURPHY, M.D., PRESIDENT, IN THE CHAIR.

PRESUMED FREQUENCY OF ULCERATION OF THE OS AND CERVIX UTERI. BY TYLER SMITH, M.D. [We give the whole of this paper, and also Dr. Bennet's reply at p. 587, because the subjects discussed are at present exciting much controversy and comment in London. Our opinions regarding the speculum, will be found at p. 650 and 1031 of vol. for 1849.] "MR. WHITEHEAD, of Manchester, in his work on Abortion and Sterility, states, that of 2,000 women whose cases he investigated, on their application to the Manchester Lying-in Hospital, 1,116 had the whites at the time the inquiry was made, and a considerable number more had suffered under a similar ailment at some former period. In 936, or eighty-three per cent., the discharge bore undoubted evidence of the presence of pus, or of sanies; and in some instances, it was more or less mixed with blood.' Mr. Whitehead traces these discharges to 'disease of the lower part of the uterus, this disease being found to exist in almost every instance;' and he further declares, that 'this lesion of structure constitutes the true pathological seat of leucorrhœa, and of all its associated phenomena.'

"DR. HENRY BENNET states, in his recent work on 'Inflammation of the Uterus and its Appendages, and on Ulceration and Induration of the Neck of the Uterus', that of three hundred cases presenting 'uterine symptoms', among the patients of the Western Dispensary, he found that '243 were suffering from decided inflammatory disease of the cervix, or its cavity; and that in 222 ulceration was present.' Thus, in Mr. Whitehead's cases, in 936 out of 1116 cases of leucorrhœa, the discharge was purulent or ulcerative; and in Dr. Henry Bennet's cases, 222 out of 300, or more than two-thirds, were also suffering from uterine ulceration. Dr. Bennet states, that the same proportions are preserved in the cases he has treated in private practice.

"It is well known that this is widely at variance with the experience of previous observers in this country. Does this discrepancy arise from the superior modes of investigation adopted by the authors I have quoted? or, does it happen from some misapprehension as to what really constitutes ulceration of the Os and Cervix Uteri? Is there simply some mistake about the nature of ulceration; or is the difference explained by the more general use of the speculum?

"Practising as a physician-accoucheur, I must get the same class of patients as those treated by Mr. Whitehead and by Dr. Bennet. I am in the habit of using the speculum in cases of obstinate leucorrhœa in married females, and I trust with a desire to observe truly and faithfully; but I do not myself find uterine ulceration—at least not what seems to me to warrant this term—so frequently as Dr. Bennet, Mr. Whitehead, and some other gentlemen who have written upon the subject, in leucorrhœal cases—purulent or muco-purulent. I find inflammation, engorgement, induration, excoriation, patches of aphthæ, epithelial abrasions, and granulations often enough, but very seldom what I could call ulceration, in non-malignant and non-syphilitic cases.

"The clearest description I can find of the so-called ulceration, is in Dr. Bennet's work (pages 102 and 103), which I take the liberty of extracting, and certain expressions in which I have italicised: it occurs under the heading—'*Inflammatory Ulceration.*—Inflammation may exist for years in the cervix and its cavity, without giving rise to any other anatomical changes than those which have been enumerated. This, however, is seldom the case. The mucous membrane lining these regions, and more especially that portion of it which is near the os, appears to be *peculiarly liable to take on ulcerative action.* Consequently, the existence of inflammation *in the great majority of instances* is soon followed by the manifestation of the ulcerative process.

Ulceration generally appears first round the os, and just within the cavity of the cervix. Many different forms or species of ulceration are described by continental writers, but, in my opinion, without necessity or advantage. An ulceration occupying the Cervix Uteri may present all the various modifications, which suppurating surfaces offer in any other part of the body, from the minute granulations of a slight abrasion, to the livid vegetations of an unhealthy sore ; but these modifiations of the ulceration require in reality no division or classification.'

" ' When an abrasion or excoriation only is present, the cervix is generally of a vivid red, and the granulations are often so minute, that it is at first difficult to ascertain whether the mucous membrane is abraded or merely congested, or to perceive the limit of the ulceration when once it has been ascertained to exist. The doubt, however, may be solved by lightly touching the suspected surface with the nitrate of silver. The abrasion immediately assumes a much whiter hue than the region which is merely congested, and its margin becomes well defined and evident. *An abraded or excoriated condition of the mucous surface is generally the form under which ulceration presents itself in the cavity of the cervix*, granulations of any size being seldom met with in this region.

" ' In its more decided form, Ulceration of the Cervix Uteri is susceptible of presenting every possible variety. The granulations may be firm, of a vivid red hue, scarcely bleeding on pressure, or they may be large, fungous, livid, and bleeding profusely at the slightest touch. These fungous ulcerations are generally connected with torpor of the local circulation ; when they are present, the congestion of the vagina and cervix is often very great, of a livid venous character, and the non-ulcerated surface of the cervix may present dilated varicose veins.'

" Now, this portrait, the general fidelity of which I admit, does not appear to me to warrant the profuse use of the term ' ulceration,' which in itself, and when applied to other parts of the body, has a definite and unmistakeable meaning. It cannot truly be said, that mere abrasions or excoriations caused by irritating leucorrhœal discharges, are " ulcerations." We do not call the excoriation which occurs from similar causes in other parts of the body ' ulceration.' We do not call granulations upon mucous membranes ' ulcerations,' whether they secrete mucus or pus, or whether they bleed or not upon mechanical irritation. If we analyse this important passage closely, we shall find that granulations at the os and cervix uteri is the strongest fact testified to in support of the theory of ' ulceration.' Dr. Bennet states, that ' an ulceration occupying the cervix uteri *may present all the various modifications which suppurating surfaces offer in any other part of the body*, from the minute granulations of a slight abrasion, to the livid granulations of an unhealthy sore.' But, immediately afterwards, he negatives this by adding, ' *An abraded or excoriated condition* of the mucous membrane is generally the *form* under which ulceration presents itself in the cavity of the cervix, granulations of any size being very seldom met with in this region.' Thus, it is evident, that even in the absence of granulations, Dr. Bennet calls ' an abraded or excoriated condition' a ' form' of ' ulceration.' From his own descriptions, it is evident that Dr. Bennet classes abrasions, excoriations, and granulations together, as forms of ulceration,—a proceeding which, it appears to me, is utterly opposed to all sound pathology. In this way we may explain the great frequency, with which ulceration of the os and cervix uteri is declared to be met with.

" If we consider excoriation or abrasion as genuine ulceration, probably no woman ever passes through life without suffering from this form of disease. In the virgin uterus, the circulation is frequently modified by the recurrence of menstruation, ovarian irritation, mental emotion, the varying conditions of the bladder and rectum ; and in constitutional ailments, the vaginal and uterine secretions, in common with the other secretions of the body, are fre-

quently depraved. Excoriation and abrasion of the mucous membranes are easily accounted for under such circumstances. Menstruation alone, in the turgidity of the uterus and ovaria, before the catamenial flow is established; in the exudation of blood from the surface of the uterus; and in the perforation of the peritonæal membrane for the elimination of the ovule from the ovary, trenches very nearly upon pathology. The slightest divergence from the ordinary function merges into disease.

"In married women, and in those who have borne children, other prejudicial causes, in addition to these, are in operation; such are the mechanical irritation of coitus, the risk of lacerations of the os uteri during the passage of the child in parturition, and the state of the uterine orifice which obtains after labour, and the return of the organ to quiescence. After labour, the orifice of the uterus does not contract smoothly, so as to leave the os uteri regular and even, but it becomes puckered and contracted unevenly. In irritable conditions of the mucous membrane of the uterus and vagina, or in a morbid state of the utero-vaginal secretions, these folds or corrugations are very liable to be chapped or excoriated, and I believe this is often mistaken for ulceration. All these, and other causes which I might enumerate, explain the frequency with which the os uteri deviates, in colour, form, and secretion, from the strictly healthy standard. In fact, we may compare the upper part of the vagina to the fauces, which is seldom found perfectly healthy in any subject who may be examined. Some of the indurations and enlargements of the os and cervix uteri appear to resemble enlarged tonsils, and, like them, to increase in size without any amount of active inflammation.

"The granulations which are sometimes found surrounding the os uteri—which may secrete mucus or pus abundantly, and which may bleed on being roughly handled—are, I have no doubt, the result of inflammation; but they resemble *the granular state of the conjunctiva*, rather than the granulations of a true ulcer, the granular os uteri offering no edges or signs of solution of continuity, by which we might satisfactorily declare it to be an ulcer. The *granular os uteri* would be a more correct designation, in such cases, than 'ulceration' of the os uteri. Some of the so-called ulcerations appear to be nothing more than patches of thickened epithelium, or portions of the os and cervix, from which the epithelium has been melted away by acrid or irritating secretions. We can imitate this condition of the parts by the slight application of the nitrate of silver—sufficient to affect the epithelial covering, but not sufficient to injure the mucous membrane beneath.

"It appears to me, that we can neither receive the existence of excoriation or abrasion, of granulation or fungous growths, of the secretion of pus or muco-purulent matter, as affording undeniable evidence of the existence of 'ulceration' of the os and cervix uteri. We must try ulceration in this part of the body, by the same tests which we apply to ulcers in other parts of the economy. We must look for a solution of continuity, with a secreting surface, separated from the healthy structures, having defined edges, everted or inverted,—for an ulcer, in fact, in the common pathological meaning of the term. We find ulcers having these characters in the air-passages, mouth, stomach, intestines, bladder, and other mucous surfaces. There is no mistaking the characters of an intestinal ulcer after dysentery, and there ought to be no mistake about an ulcer of the uterus. Indeed, in the corroding ulcer of the uterus, we unfortunately see that this organ is but too capable of taking on all the qualities of ulceration, in a degree only equalled by its extraordinary vitality, the organ being scooped out, or eaten away, in a comparatively short space of time. Cases are also met with, in which the os uteri has been destroyed by the sloughing ulceration, and loss of structure, sometimes following the application of the more powerful caustic agents. We are, however, called upon, by the unlimited believers in uterine ulceration, to admit that ulcerative disease may exist for years, in its common form, without any perforation, excoriation, serious loss of substance, or altered con-

figuration. Whether we test the so-called ulceration of the uterus by ulceration occurring in other mucous surfaces, or in the uterus itself under undoubtedly ulcerative disease, the distinctive characteristics are wanting in the great majority of cases; and they certainly are not found, unless I am most egregiously mistaken, in the enormous proportion of 222 cases of ulceration to 300 cases of promiscuous uterine disease.

"In all that I have said, I do not wish it to be supposed that I question the frequency of irritation, chronic inflammation, and subacute inflammation, in connexion with leucorrhœa; recent writers would, however, treat leucorrhœa merely and solely as a symptom, not as an independent disorder. But I am well assured that it is often the disease itself, or at least all of it that we can appreciate; and that the irritable or inflammatory condition is excited secondarily, and mainly, by the morbid leucorrhœal secretion. Some change in the innervation or nutrition of the organ occurs; or it sympathizes with a malady in some remote organ, and the secretions are consequently depraved. These depraved secretions irritate the surfaces with which they come in contact, and produce the visible signs of irritation or inflammatory action. We see these discharges sometimes inflame and excoriate even the external integument, but we should never dream of saying that the inflamed condition of the skin was the essential part of the disorder. The same observation applies to the uterus. Thus it is not pathological, nor useful, always to consider leucorrhœa as a mere symptom; and the old plan of astringent injections, though sometimes mischievous, cannot quite be dispensed with; for in some, even profuse leucorrhœas, an astringent injection, by arresting the utero-vaginal discharges, does more than any other plan to soothe inflammatory conditions, or rather, to suspend their causes.

"Notwithstanding the use of the speculum,—notwithstanding the use of lamps and glasses,—there is often considerable difficulty in ascertaining the precise condition of the cavity of the uterine cervix, engorged as it is, and deep in colour from irritation, or other disease, and from the interruption to the circulation in the uterine organs, which is almost necessarily dependent on the introduction and expansion of the speculum within the vagina. But in the dead subject no such difficulties exist; and it might certainly be expected, since leucorrhœa is a malady so very common, that uterine ulceration would be frequently revealed by post-mortem examinations. The only place in which, so far as I am aware, post-mortem examinations have been conducted in considerable numbers, with special reference to the determination of the frequency or infrequency of ulceration of the os and cervix uteri, is at St. George's Hospital. For several years past, the condition of the uterus has been examined with great minuteness and accuracy in the dead subject at this hospital.

"Mr. Pollock, one of the lecturers on Anatomy at St. George's Hospital, informs me, that for more than three years during which he was Curator to the hospital museum, he examined the uterus, internally and externally, in all the female subjects in the dead-house. During this time, upwards of 100 women died in the hospital annually. In each case, the uterus was laid open, and carefully inspected. Mr. Pollock only detected actual and unmistakeable ulceration *in four cases*. Of these, three were scrofulous subjects, and scrofulous ulceration existed in other parts of the body; and in one of them, the ulceration involved the vagina extensively, as well as the os uteri.

"Mr. Gray, who succeeded Mr. Pollock as Curator, informs me that, during his curatorship, he examined the bodies of 180 women, who had died of all diseases in St. George's Hospital, with a distinct view to ascertain the proportion of cases in which ulceration of the uterus existed. These examinations were also conducted with great care and minuteness. Out of the 180 subjects, distinct ulceration of the os and cervix was found in only *three* instances. Slight abrasions, discolorations, and granulations were frequently

observed; and this accords with the observations of Mr. Pollock. One or two other curators to St. George's Hospital, besides Mr. Pollock and Mr. Gray, have arrived at the same results. It is only by pathological investigations of this kind that we can arrive at infallible results.

"But, it may be asked, why bestow so much pains on proving that abrasion, excoriation, and ulceration are not *ulceration?* Why dispute as to terms? Simply because a name rules treatment, and because the name of 'ulceration' being first given, an heroical treatment, not without danger, is frequently resorted to where milder local applications or constitutional treatment would be equally efficacious. After Mr. Abernethy wrote his celebrated work on the *Constitutional Treatment of Local Disease*, his idea was pushed to its extreme, and local remedies were often most improperly neglected. Now, in all that relates to the uterine organs, the doctrines of Mr. Abernethy are in danger of being entirely refuted, and we are in some risk of utterly neglecting constitutional treatment, and of being entirely absorbed by local applications. This we cannot do, without impeding the improvement of the treatment of this class of affections. When a patient is told she has an ulceration of the womb, she often thinks of an ulcer of the leg, or the cheek, etc., and is proportionably frightened, because of the importance of the organ which is the seat of the presumed disease. There is nothing women will not submit to, to be freed from such a dire malady. At the present time a veritable uterine panic affects the upper and middle classes of society, and every woman with the slightest ache, or discharge, is not satisfied until the peccant organ has been ocularly inspected. I do not believe that this state of things, or its inevitable results, will conduce to the dignity and respectability of our profession. I do not hesitate to affirm, so far as I have eyes to observe and a judgment to weigh facts, that much exaggeration prevails respecting the frequency of this same ulceration of the os and cervix uteri—an exaggeration which should be calmed, so that the legitimate methods of examination may lead, not to a suspicion of our profession, but to a real improvement in the diagnosis and treatment of uterine disease, as it actually exists. We cannot safely repudiate either the local or the constitutional treatment of uterine disease. I have seen cases, in which the local ailment has been as far as possible cured; nevertheless, the constitutional symptoms remained unrelieved. I have seen others, in which judicious constitutional treatment has cured the local malady without any topical treatment whatever. But in the combat against disease, we require both constitutional and local weapons; and any views which will disparage either the one or the other, must cripple the resources of our art."

Mr. Hird said, that specular examinations, in women of all ages, were carried, at the present day, to an unnecessary, indeed to a most unwarrantable extent. He could not believe in the common existence of ulcers in the os and cervix.—genuine ulcers with loss of substance, and inverted or everted edges. Caustic was too indiscriminately used. In two cases to which he had been called, the application of nitrate of silver had produced the most serious mischief.

Dr. Tilt did not believe that any one, familiar with uterine disease, would use escharotics in such a manner as to produce the evils described by Mr. Hird.

Dr. James Reid believed that many of the cases now treated so heroically, would do well by the use of astringents. He had seen great benefit result from the application of a strong solution of the diacetate of lead to the os and cervix uteri.

Dr. King related several cases, in which the use of the speculum was of great service. He objected very strongly to its use in the virgin.

Mr. Chippendale said, that from large experience, he could aver, that cases of leucorrhœa generally did well under the use of common injections.

Dr. Murphy, in the absence of Dr. Henry Bennet, would state, that

although the affections of the uterus commonly met with, were granulations and abrasions (such as those which Dr. Smith believed were mistaken for ulceration), yet they required the application of caustic remedies, and would get well under no other treatment. He thought that all the censure which had been lavished on the speculum, applied to its use, and not to its abuse. Its proper use never involved any indecent exposure. Much stress had been laid on the *post-mortem* appearances, and the absence of the signs of ulceration after death. He could readily conceive, that the raised appearances seen in leucorrhœa, and the congested and indurated surface, might quite disappear in the dead subject. At the same time, he must admit, that if a positive ulcer, with loss of substance and distinct edges were required, he was certain that such an ulcer was not a common affection of the uterus.

Dr. Tyler Smith having made a few remarks, the Society adjourned.

Saturday, April 13, 1850.

Edward Wm. Murphy, M.D., President, in the Chair.

Perforating Ulcer of the Stomach: Disease of Arteries, Kidneys, etc. Case Related by Dr. Taylor. John Dynes, aged fifty-three, was admitted as a patient of the St. Pancras Royal General Dispensary, April 2nd, complaining of cough, dyspnœa, and dropsical swelling of the legs He informed Dr. T. that seven years ago he had an attack of rheumatic gout in the right knee, which confined him to bed for three weeks. For the last two years and a half he has suffered from gradually increasing cough, dyspnœa, and occasional palpitation, much increased by exertion; and within the last twelve months he has been unusually drowsy, frequently falling asleep during the day. Six weeks ago, after exposure to wet, he became much worse: the dyspnœa increased to such an extent as to prevent him from lying down night or day; the cough was constant, and accompanied with copious frothy expectoration; and the legs and thighs began to swell; the chest was dull on percussion, from the level of the third rib, on the left side, as far as the stomach; the dulness extended two inches to the right of the sternum, and completely round the lower part of the chest, for two or three inches above the attachments of the diaphragm; the natural sounds of the heart were replaced by a very loud and harsh double murmur, extensively audible over the front of the chest: the first murmur was propagated upwards, and was very loud in the neck; the second was most intense at the base and apex of the heart. While examining the chest, I found that he had slight tenderness of the epigastrium; and upon questioning him further, he told me that for the last few weeks he had had occasional pain in this region, darting through to the left scapula. Early on the morning of the 7th, he was seized with vomiting of blood. In the course of a few hours, he had vomited sufficient to fill a large wash-hand basin, and he died in about eight hours after the commencement of the hæmorrhage.

April 9th. Autopsy. The cavity of the pleura on each side contained about six ounces of clear serum, and the lungs were emphysematous. The heart was considerably enlarged, pale and flabby; it was covered with numerous white spots and streaks, especially in the track of the coronary vessels. The walls of both ventricles were much thickened; the columnæ carneæ were hypertrophied, and the cordæ tendineæ were thick and rigid. The septum, towards the base of the heart, was an inch and a half in thickness. There were some thickening and deposit on the margins of the mitral valves. The right auricle and auriculo-ventricular orifice were much dilated. Two of the aortic valves were consolidated into one large, irregular, bony mass, so as nearly to block up the aortic opening; the third, which was also the seat of a large bony deposit, was partly separated from its attachment to the aorta, leaving an aperture through which the circulation had been in part carried on, as was shown by a clot of blood which it entangled. The stomach was distended with coagulated blood. Two inches and a half from the pylorus,

on the lesser curvature, there was a large, excavated, circular ulcer, an inch in diameter, with smooth and regular edges. This had completely destroyed the mucous and muscular coats of the stomach, and penetrated the coronary vein, thus giving rise to the hæmorrhage which was the immediate cause of death. The liver was small, and presented some fatty deposit in its structure. Both kidneys were in an advanced stage of Bright's disease. On closely questioning the friends of the deceased, Dr. Taylor learned, that for the last year and a half he had occasionally complained of uneasy sensations in the stomach; these, however, were so slight as not to attract much attention, and do not appear to have amounted to pain till within five weeks of his death. Even then, had the epigastric tenderness not been discovered, he would not have considered it as worth mentioning. Till within two days of his death, his appetite was good, and he never suffered from vomiting or increase of pain after eating. Previous to the attack of rheumatism, he had been in the habit of drinking beer rather freely, but very seldom to intoxication. For the last four or five years, he had been very abstemious.

Health of London during the Six Months ending 30th March 1850. By John Webster, M.D., F.R.S. This paper appears entire, as an original article, at p. 540 of this number.

Saturday, April 20, 1850.

Edward Wm. Murphy, M.D. President, in the Chair.

Valvular Malformation of the Heart in a man who died of Confluent Small-Pox on the fourth day of the Eruption:—and about ten weeks after receiving a Blow. By Mr. J. F. Marson. Edward Walker, æt. 41, was admitted at the Small-Pox Hospital, on the 9th of April, 1850, with confluent small-pox, on the second day of eruption. Ten weeks ago, he was struck over the pit of the stomach, by the pole of a van, and two hours afterwards he began to have palpitation of the heart, which continued more or less ever after. During the first fortnight, he went on with his work, under medical care, and subsequently became a patient at St. George's Hospital. His health having improved there, he returned to work for nearly a fortnight, when he was attacked by small-pox. On admission at the Small-Pox Hospital, he was unable to lie down in bed, from the great disturbance of the heart; his pulse at the wrist was extremely irregular, no three consecutive beats being alike, and 120 in a minute. On examining the heart with the stethoscope, it was found pulsating with great violence, and very irregularly, and might be heard over a considerable part of the chest. He died on the fourth day of the eruption of small-pox. The patient attributed the disease of his heart entirely to the blow he received; he had never had rheumatism.

Autopsy. The heart was greatly enlarged, and weighed twenty-one ounces, when separated from the pericardium; the lungs were very much gorged with blood, but otherwise healthy; the liver was not enlarged; the aorta was healthy. From a table given of the average weight of hearts, in the last edition of Quain's Anatomy, (vol. ii. p. 1124) from an extensive examination of *healthy* hearts, made by Drs. Clendinning and Reid, it appeared that the weight, as given by them, was nine and a half ounces, by the former writer, ten and a half ounces by the latter, of men at forty years of age; so that this heart was double the weight of a healthy heart. The man was six feet four inches in height, well-proportioned, and not stout. There was cartilaginous deposit at the base of the mitral valve. Instead of three, there were only two valves situated at the commencement of the aorta; this seemed to have been an original malformation. The edges of the aortic valves were thickened, having some cartilaginous deposit in them, especially where they met at one end. The valves on the right side of the heart were healthy. [The heart was exhibited.]

Dr. Lankester said that the tables of the weight of the heart, referred to by the author, did not mention *the height of the individuals;* and judging from the researches of Mr. Hutchinson into the relation of the lungs to the stature of the person, it might be concluded that the heart of a man of six feet four inches ought to weigh 21 ounces.

Observations on some Remarkable Cases of Hysteria. By Dr. F. R. Manson.

Saturday, April 27, 1850.

Edward Wm. Murphy, M.D., President, in the Chair.

Case of Hysteria (Insanity ?) in the Male, in which both testicles were removed successfully. By Dr. Chowne. [These unjustifiable operations were not performed by Dr. Chowne.]

Phosphate of Ammonia in the Treatment of Gout and Rheumatism. By Dr. Edwards.

Saturday, May 4, 1850.

Edward Wm. Murphy, M.D., President, in the Chair.

Disease of the Arteries of the Brain ; Great Venous Congestion of the Thoracic and Abdominal Viscera, in a Gentleman who died with Symptoms of Apoplexy. By Dr. Cormack. Dr. Cormack remarked that cases, such as that which he was going to describe, were not of unfrequent occurrence in practice ; but yet they were sufficiently interesting to justify a short description, in connection with the recent preparations which he exhibited. Scarpa, Cortesius, Morgagni, Abercrombie, Cruveilhier, Dr. Bright, and, more recently, Mr. Paget and others, have illustrated the connexion which exists between disease of the cerebral arteries and apoplexy ; and in the *Edinburgh Monthly Journal* for June 1842, Dr. Cormack described a case of disease of the arteries of the brain, which he had seen with Dr. John Campbell and the late Dr. Abercrombie of Edinburgh. In that, as in too many similar cases, the *post-mortem* observations were confined to the head.

Case. D. G., a person in good health and comfortable circumstances, was, two years and a half ago, when in his seventy-eighth year, attacked with hemiplegia ; since which time he had no power in the right arm, and very little in the right leg. The power of speech, which was at first much affected, was soon perfectly restored. His mind and memory became much impaired ; but, if trifling ailments be left out of consideration, it may be said, that he went on for two years and three months pretty comfortably,—eating heartily, and sleeping soundly. About the beginning of March, he was observed to be in an unsatisfactory state, though he made no complaint of illness. He was generally drowsy : the paralytic side seemed to have lost the strength which it had regained ; he had frequently, for days at a time, incontinence of urine ; he often lost consciousness for several minutes at a time ; and occasionally, but especially on waking from sleep, he talked deliriously, but was generally, by conversation, restored to mental tranquillity. Dr. Cormack was first consulted on the 24th of April, principally on account of his imperfect respiration, extreme drowsiness, and incoherent conversation. The symptoms had suddenly become very urgent. Dr. Cormack found him sitting on an easy chair, with a feeble pulse, somewhat contracted pupils, and a vacant bewildered expression of countenance. It was difficult to engage his attention ; but, as the reward of some trouble, pertinent answers were obtained to a few questions. His voice was feeble, and his chest expanded very imperfectly at each inspiration. He frequently put his hand to his head as if in pain ; but uniformly stated, when asked, that he had no pain there or elsewhere. His condition at this time is best described by the word *torpor*. The treatment consisted of aperients by the mouth and rectum, a mustard bath to the legs, and a blister to the chest. Next morning, he was decidedly more

alive, and complained, without being asked, of griping pains in the bowels, as well as of some headache ; he also said that the blister, which had risen well, caused great discomfort to him. During that day, he took a small quantity of beef-tea ; and to relieve the chest from the accumulation of mucus, one or two doses of an expectorant mixture were given. On the following day, the torpor returned ; but the urine continued to flow in natural quantity, till it suddenly became entirely suppressed, and, during the last twenty-four hours of his existence, there was not more than a tablespoonful in the urinal. On the 28th, a large blister was applied to the nape of the neck ; but it did him no good. His respiration became slower and slower, and the chest expanded very imperfectly. Soon after the flow of urine ceased, he fell asleep ; and this sleep passed into death about noon on the 29th. For some hours before death, a fetid and unctuous discharge was visible on the skin all over the body. During the first part of his last sleep, the palsied limbs became flaccid ; but, shortly before death, they again became rigid. The hand was firmly clenched. The eyelids, but especially the left, were so firmly shut, as to be difficult to open ; and the jaws were immoveably locked.

Post-mortem Examination, forty-eight hours after Death. There was no appearance of decomposition. A very considerable deposit of fat existed everywhere. *Head.* There was great venous congestion of the encephalon ; the greater part of the hemispheres of the cerebrum were of natural consistence ; but a portion of the base, and the cerebellum, were soft and pulpy. No apoplectic clot, nor any tumour, was found. The choroid plexus had a gritty feel, as if it contained particles of sand. The coats of the cerebral arteries of all sizes were studded with calcareous deposit, which surrounded some parts of the larger vessels in their entire circumference. The vessels in the upper part of the cerebrum appeared least diseased. *Chest.* The *lungs* were chiefly remarkable for their great sanguineous engorgement. The upper lobe of the left lung adhered firmly to the costal pleura anteriorly ; and in its superior part, there was a calcareous deposit as large as a shilling. The right lung was adherent posteriorly to the walls of the chest, but was free anteriorly. The *heart* was large, of somewhat paler appearance than usual, and loaded with adipose tissue. Upon making a careful microscopic examination of the tissue of this organ, it was evident that there was no fatty degeneration. The valves were all competent, even though in the aortic valves there was some calcareous deposit. The heart weighed fifteen and a half ounces. *Abdomen.* The liver was dense, but not cirrhosed. The gall-bladder was much thickened, and contained no bile. The spleen was hard, and rough ; and in one place, it was much puckered ; where there was also a dense mass of contractile tissue of almost cartilaginous consistence. The mesenteric veins, and the whole vascular net-work of the intestines, were turgid with blood. *Kidneys.* The congestion described in other organs was still more striking in the kidneys. The tubular portion of the left, when bisected, presented a black and almost glistening appearance, of which some idea may be formed by comparing it to tar, or printer's ink. The cortical portion was also of deeper colour than natural, and contained several inky spots—extravasated blood. The left kidney contained a cyst of about the size of a large walnut. The right kidney was congested, but in a less degree than the left.

Remarks. Dr. Cormack thought that this was a case, in which death arose from all the functions being gradually arrested by deficient vital energy, consequent upon death of that portion of the brain which was found in a softened state ; that condition of the brain, again, being caused by the atheromatous condition of the arteries. "Pathological anatomy has furnished very striking illustrations of the effect produced by atheromatous deposit in arteries, upon the organs they supply. It has been stated, that in the smaller arteries the atheromatous mass is deposited in such wise, as to occasion more or less coarctation. This is most frequently observed in the arteries of the leg, of the brain (especially in the arteriæ fossæ Sylvii), and of the heart, and

it is accompanied at certain points by ossification of the arterial walls. These circumstances combined serve to diminish, and, if the stoppages happen in several branches at once, entirely to cut off the supply of blood—the natural consequence of which is atrophy, and eventual mortification of the parts implicated. . . . . Many instances of gangrene of the lower extremities, and a certain form of cerebral softening, are probably due to a similar cause."[1]

In the case of D. G., the diminished sensibility, the absence of pain, the sanguineous congestion of the kidneys and other organs, were ascribed by Dr. Cormack to the cerebral softening. The respiration was primarily influenced by the diseased state of the brain; and the deficient aeration of the blood must, in turn, have caused an increase in the severity of the cerebral symptoms. The immediate cause of the cessation of the function of the kidneys was their engorgement. The calcareous deposit in the lungs, the pleural adhesions, and the cyst in the kidney, were evidently not connected with his paralytic seizure, or fatal illness.

On Entropium. By Haynes Walton, Esq. Mr. Walton considered Entropium to be produced by the abnormal action of a portion of the orbicularis palpebrarum muscle, situated on the free edge of the tarsal cartilage, for about two and a half lines. This portion of muscle was thicker than any other part, and its fibres were more compact and redder: it did not appear to have been described by any author. The operation proposed by Mr. Walton, as suitable for those cases commonly met with, consisted in removing this portion of the muscle, with a sufficient quantity of the skin of the lid as would, by the tension arising from its loss, overcome the bending or curving of the tarsal cartilage produced by the unnatural action of the ciliary muscular fibres. He made an incision along the edge of the tarsus, and close to its cuticular margin, from one angle of the lid to the other, and a second nearly parallel to it, about three lines distant, and joining it at the extremities. In both, he carried the point of the knife at once through the skin and muscle down to the cartilage; he then raised one of the angles of the flap, and dissected off the skin and muscle at the same time, by vertical strokes of the knife, taking care that the cartilage was completely bared. He then brought the edges of the wound together by two or three sutures. Mr. Walton had performed the operation with good results in fifteen instances.

Observations on the Disease usually called Puerperal Fever. By Dr. Lightfoot.

A Youth without a Sternum. Dr. Chowne exhibited and described this interesting person, who has now been seen by vast numbers of the profession.

Saturday, 11th May, 1850.

Edward Wm. Murphy, M.D., President, in the Chair.

Nomination of Office-Bearers. In accordance with the terms of union adopted at a Special Meeting held on the 18th April, the Westminster Society had the right of electing as office-bearers of the amalgamated Societies two Vice-Presidents, ten Members of a Council, and a Secretary; and the following gentlemen were proposed for these offices, to be balloted for at next meeting. *As Vice-Presidents*, Dr. Garrod, Mr. Clarke, Dr. Lankester, and Mr. J. F. Marson. *As Councillors*, Dr. E. W. Murphy, Mr. H. H. Walton, Dr. F. Sibson, Dr. J. R. Cormack, Dr. F. R. Manson, Dr. Tyler Smith, Mr. W. Harvey, Mr. W. Harding, Mr. R. Greenhalgh, Dr. Samuel W. J. Merriman, Mr. B. Travers, Jun., Dr. T. H. Tanner, Dr. W. R. Rogers, Dr. Henry Bennet, Mr. J. F. Marson, Dr. E. Lankester, Mr. J. Chippendale, and Mr. E. Canton. *As Secretary*, Dr. Routh. [The Medical Society of London have the right of electing from their body the first President of the United Societies, also the Librarian, two Vice-Presidents, the Councillors, and a Secretary.]

[1] Hasse's Pathological Anatomy. Trans. in Sydenham Society, pp. 82-3.

Method of Detecting Chloroform in the Blood. By Dr. John Snow. Dr. Snow placed on the table the apparatus, which he used for detecting the presence of chloroform in the dead body. He said that the process was a modification of that described in the *Journal de Chimie Médicale* for March 1849. The blood or portion of the body to be examined was put into a flask, from which there proceeded a tube, which was made red-hot in part of its course. Another glass tube, attached to the extremity of the latter, was moistened inside with a solution of nitrate of silver, and terminated in a Wolf's bottle, the interior of which was also moistened with the same solution. Heat being applied to the flask by means of the chloride of calcium bath, the vapour given off had to pass through the red-hot tube, and any chloroform which might be present was decomposed, and the chlorine and hydrochloric acid gas being set free, were arrested in the next tube, where they formed a white precipitate of chloride of silver, which became rapidly darkened in colour by the action of light. The nature of the precipitate could be further proved by cutting the tube with a file, and introducing a drop or two of nitric acid into one portion, and of solution of ammonia into the other. He had distinctly detected the presence of chloroform by this process in two kittens, killed by inhaling the vapour, on six successive days after the death of the animals, although no precautions were taken to protect the bodies from the air, and the quantity inhaled by each kitten must have been less than one minim. The parts of the animals examined were the viscera of the chest and abdomen, the brains, and the muscles of the body and extremities. From all these parts, clear evidences of the presence of chloroform were obtained. He had also obtained a precipitate of chloride of silver, by operating on some portions of the muscles taken from the leg of a child amputated under the influence of chloroform at St. George's Hospital. The process, indeed, was one of such delicacy, that he had been able to clearly detect the presence of the hundredth part of a grain of chloroform when dissolved in a thousand grains of water. The only substances which could yield chloride of silver by this method were, Dutch liquid, chloride of ethyle, and some other bodies similar in composition and effects to chloroform, and which, however, were not in common use, or even kept on sale. There were chlorides in the human body, but these could not be decomposed below a red heat, and certainly not till the part became dry; whilst, in the process he employed, the heat to which the part under examination was exposed was only that of boiling water, or a very little more, and it could not become dry in the most protracted examination, as the greater part of the moisture given off became condensed in the tube, which inclined upwards, and flowed back into the flask. The method, therefore, was liable to no fallacy or objection. He had received from Mr. John Parrott some portions of the viscera of a woman, lately found dead, under very mysterious circumstances, in the Wandsworth-road. The parts had been closed up air-tight from the time they were taken from the body. They included a portion of the brain and of the liver; and, though they were kept boiling for two or three hours in their own serosity, not the least trace of chloride of silver was obtained, whilst in the instances where chloroform had caused death, the precipitate began to appear when the heat to which the part was exposed reached to about boiling point. In the muscle taken from the child's leg, the chloroform was only a few minutes longer in being detected, although the quantity present must necessarily have been much less than in a case where death had been caused by it. He therefore concluded, that the death in the Wandsworth-road could not have been occasioned by chloroform.

A Case of Disease of the Spinal Chord, in which the Symptoms supervened upon a Recent Cold; Small-pox had preceded by one year, and Injury to the Spine twelve years. By Mr. J. F. Marson. Joseph Thomas, a black, a native of Nova Scotia, twenty-two years of age, was

attacked in the beginning of March 1845, with symptoms such as are produced by a common cold. He had been employed as a servant in the wards of the Small-pox Hospital for about twelve months, subsequently to being a a patient there with small-pox, which disease he had in a mild form. He was an active, intelligent man, of middle size, and rather slight form. During the first few days of his illness, he was allowed to sit up, and amuse himself without doing any work ; but his symptoms of disease increasing, he was, with some reluctance, prevailed on to confine himself to bed. His pulse at that time was soft, and from 90 to 100 in the minute. He had thirst, a furred tongue, and copious perspiration. At the end of the week, he complained of stiffness in the neck, and pain on attempting to move his head from side to side ; and he stated that he had had flying pains in his neck and shoulders at night, occasionally, for a month or six weeks past. After being confined to his bed for about a fortnight, he began gradually to lose the use of his arms, and subsequently of his lower extremities. This was followed by retention of urine, and the stools were passed involuntarily. His bladder was emptied night and morning by the catheter, for ten days, after which he passed his water also unconsciously ; and from this time there was a constant dribbling of urine, the bladder remaining in a contracted state. He had complete loss of voluntary motion in all parts, supplied from the nerves below the fourth cervical pair. Sensation, however, did not appear to be in any respect altered, either in increase or diminution. His respiration was easy and free ; his deglutition was good, and he was without pain in any part of the body, except in the neck, and only there on motion ; his appetite was good, and he slept well ; he had no pain on percussion over the spinous processes of the vertebræ, no rigors, and no headache ; his intellect was in no way affected all through his illness, nor was there any indication of his brain being in the least implicated. Amongst the most common and most striking symptoms described by Ollivier and Abercrombie, in their works on Diseases of the Spinal Chord and Membranes, are muscular rigidity, twitching, or convulsions ; yet there were no such signs to guide us in the case now under consideration. No movements could be excited in either the upper or lower extremities, by tickling the soles of the feet or palms of the hands, or other parts of the body, with a feather. It was, however, tolerably evident, from the symptoms detailed above, that there was some mischief going on insidiously in the spine, most likely of an inflammatory nature. From the softness, however, of the patient's pulse, and the profuse perspiration, it was not judged proper to employ general bleeding ; and there was no pain nor tenderness on percussion over the spinous processes, to indicate where local bleeding might be of service. Purgatives and saline medicines were administered, and the patient was kept in bed, and on low diet. Bleeding not seeming to be admissible, he was very early brought under the influence of mercury, so as to make his gums tender, which was continued for more than a fortnight, and a narrow blister was applied from the nape of the neck to the lumbar region. The greatest care was taken to keep his bed as dry as possible, by the use of the urinal, etc. ; but from his constantly lying in the same position, without the power of moving in any way, he soon had a sore formed over the sacrum. Directly that this sore was discovered, he was placed on an India-rubber collar, or crescent ; but a large slough was formed, which appeared to be the proximate cause of death, after an illness of seven weeks. Not the least pain was ever felt in the wound over the sacrum, although sensation was good in all other parts of the body. Owing to the great pain felt in moving the head forward, Mr. Marson predicted, three weeks before the patient's death, that there was pus in front of the cervical portion of the spinal chord, but that, in all likelihood, the chord itself was not materially diseased in this part, because the muscles of the chest and abdomen were used in breathing, which would most likely not have been the case, had the chord been seriously diseased in the upper part of the spine. This opinion was proved to be correct on dissection.

Post-mortem Examination, twenty-four Hours after Death. The spine and its contents were carefully examined in their whole course. There was purulent deposit on the anterior surface of the theca vertebralis, occupying about five-sixths of the whole of the cervical portion of the canal, but the chord itself in this part was not diseased. About six inches of the membranes of the dorsal portion of the chord were congested, and the cellular tissue infiltrated with a gelatinous effusion, opposite to the lower dorsal vertebræ. The entire chord was somewhat softer than natural, and portions of it, of variable extent, were completely disorganized, and reduced to a semi-fluid condition. The fluid found in the vertebral canal, could not be said to be in unusual quantity. The medulla oblongata and pons Varolii appeared to be quite healthy. Some years ago, when a boy, about ten years old, this man received an injury from a horse, by being thrown down and trampled upon, but there was no breach of surface; and, at the time, he appeared only to have been bruised; but now, the two right transverse processes of the seventh and eighth dorsal vertebræ were discovered to have been fractured, opposite to the softened and congested part of the chord and membranes, and in the areolar tissue, surrounding these transverse processes, there was slight but evident purulent infiltration. The processes were loose, and the separated or disunited ends were in a state of ulceration; they did not appear ever to have united after the fracture, but of this it is impossible to speak with certainty. Ample evidence being found at once, on opening the spine, to account for all the symptoms during the fatal illness, other parts of the body were not examined.

Remarks. The patient had been at work, just before his illness appeared, cleaning the balusters of a staircase on a cold windy day, with a window open at the top of the staircase, and another at the bottom. It is likely, however, that the mischief thus done would have passed away as a common cold, but for the predisposition to disease, arising from the injury received from the horse some years previously, probably also influenced somewhat by his late attack of small-pox. Injured parts are disposed to take on morbid action when brought under exciting causes; of this, all must have seen examples. Some might think that bleeding ought to have been employed at the onset of the illness; there were, however, reasons against it, viz.:—a soft pulse, profuse perspiration, and the constitution of the blood. Sir B. Brodie is averse generally to blood-letting after injuries to the spine, and states that patients do not bear bleeding so well after injuries to the spine, as after injuries to the head;[1] but he makes exceptions. There was often great difficulty in detecting the seat of inflammation, the diseased part being surrounded by a strong bony covering, so that pressure upon it frequently would not produce pain. Mr. Copeland[2] has suggested an admirable means of assisting us in our diagnosis of these intricate cases; the part being more susceptible of the stimulus of heat, he has suggested that a sponge should be wrung out of hot water and carried down the spine, which will often give an acute degree of pain while passing over the diseased parts. This test, it need scarcely be remarked, will be of no use where sensation, as well as motion, has been lost.

We should watch such cases with great vigilance, at the commencement, in order to make out as early as possible the exact seat of the inflammation; and in general, in young people, it will be right to take blood, at least topically, if not generally, at the *beginning of the illness*, but not after it has existed some time. It is only in the *early* stage that the disease is much under our control. It should also be borne in mind, that such inflammation is sometimes of a scrofulous character.

Abercrombie,[3] in his admirable work on Disease of the Spinal Chord, says,

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[1] Med. Chir. Trans., vol. xx, p. 162.

[2] Obs. on the Symptoms and Treatment of the Diseased Spine, p. 35. 1815.

[3] Pathological and Practical Researches on Diseases of the Brain and Spinal Chord. Second Edition, p. 415.

"several very remarkable cases have occurred to me, which presented all the characters of extensive Disease of the Spinal Chord, while nothing could be found, either in the brain or the chord, that could in any degree account for the symptoms." After relating these cases, he mentions others, with similar symptoms, which recovered.

There was the possibility of this Disease of the Spinal Chord having been the result of, or in some way owing to, the attack of small-pox. Two other cases had been lately mentioned to Mr. Marson, of Disease of the Spinal Chord, believed to have been caused by small-pox. There was, however, no *post-mortem* examination of either of them.

In the able treatise of Ollivier,[1] three cases are alluded to of disease of the chord, two occurring after petechial, and one after intermittent fever. He, however, did not see any of them. There is a fourth case related in the work of Racchetti,[2] of a girl, ten years old, who died of petechial fever, who had inflammation of the Spinal Chord and membranes, and puriform matter about the cauda equina.

Saturday, May 18, 1850.

Edward Wm. Murphy, M.D., President, in the Chair.

Remarks on the present Treatment of Venereal Diseases in the Hospitals of Paris, as observed during a recent visit to that city. By William Acton, Esq. In preparing a second edition of his work on Venereal Diseases, Mr. Acton had thought it desirable to visit Paris, to observe what progress M. Ricord had made during the last two years in the treatment of those affections. The following is a table of the Syphilitic cases in M. Ricord's wards on the 2d of April, 1850.

Indurated Chancre	33	Gonorrhœa Præputialis	3
Vegetations	2	Scrofulous Affection of the Testis	1
Secondary Symptoms	21	Blennorrhagia	3
Bubo	8	Stricture	3
Vesical Catarrh	4	Chancre of the Anus	3
Phagedenic Chancre	2	Gonorrhœal Rheumatism	1
Epididymitis	7	Albuminuria	1
Urinary Fistula	1	Hæmorrhoids	1
Tertiary Symptoms	8		
Iritis	1	Total	114
Simple (non-indurated) Chancre	11		

Indurated Chancre. A large number of chancres were indurated. This arose from the admission into the Hôpital du Midi of cases of this description, as being the most important. The treatment consisted in the internal use of the proto-ioduret of mercury, continued long after all induration has disappeared. It was often necessary to continue it for three or six months, to prevent the recurrence of constitutional syphilis.

Fumigation. Mr. Acton referred to the re-introduction of cinnabar fumigations into English practice. He explained the proper plan of their application, and the reason of their having fallen into disrepute in the treatment of secondary symptoms, in the more obstinate forms of which they were employed on the Continent with signal success.

Phagedenic Chancre. This included the large class of irritable sloughing, unmanageable sores, described by English writers. M. Ricord treated it with iron, according to the following formula: ℞. Ferri Potassio-Tartratis, ʒi; Aquæ ʒvi. Two teaspoonfuls to be taken three times a day. Mr. Acton had prescribed this remedy for the last two years with the most marked success, in cases in which he had been consulted as to the propriety

[1] Traité de la Moelle Epinière et de ses Maladies. 2me edit. pp. 584, 657.

[2] Della Struttura, delle funzione, e delle Malattie della Medolla Spinale, p. 374. 1816.

of continuing a mercurial course, or of commencing it after all other treatment had failed.

Vesical Catarrh was treated by emptying the bladder, and injecting, every fourth or sixth day, by means of a catheter and glass syringe, a solution of two drachms of nitrate of silver in four ounces of water. The effect, at first, was to produce bloody urine ; but the cases rapidly recovered. Mr. Acton had witnessed the result of this treatment.

Strictures. In the more simple cases, M. Ricord employed dilatation by means of conical elastic bougies, with olive-shaped bulbs.[1] In the more severe cases, or if the stricture be undilatable, he used nitrate of silver, or performed incision of the urethra. He objected to the employment of potassa fusa. Mr. Acton also, in common with those who had enjoyed the most extensive opportunities of studying the subject, was opposed to the use of the latter remedy. Sir Charles Bell relates the case of a person, who died of another disease, to whom he had applied the potassa fusa three times. On examining the urethra, he found no marks of erosion, or even partial destruction of the wall. Having armed a bougie, he forced it against his arm, and found the effect very slight ; whence he concluded, that the oil used is saponified by the potash, forming a slightly caustic soap, which cannot do much harm or good when small quantities of the alkali are used. This opinion is corroborated by the length of time which some cases take for their cure. If larger portions of the potassa fusa were used, there was great danger of the caustic escaping, and falling on any part of the urethra, so as to produce most untoward consequences. In cauterizing the os uteri, even when aided by the speculum, we were obliged to guard the healthy parts by means of lint dipped in vinegar. That it produced mischievous effects in the urethra, no one could doubt, who had read the accounts given by the writers who witnessed its use at the end of the last century. When these objections to its use had been obviated, Mr. Acton would not hesitate to employ potassa fusa.

Mr. Acton thought, that the practice of incising the stricture through the perinæum might be called for in certain instances. M. Ricord had remarked to him, with reference to the ill-success with which this operation was attended in London, that dangerous consequences often followed whatever plan was employed, and that he was not certain but that retraction of the stricture might return after the perinæum was divided.

Tertiary Symptoms. Iodide of potassium was given in much larger doses in Paris than in London. Mr. Acton had successfully prescribed larger doses of this medicine, in bitter infusions, in several cases, in which small doses had been ineffectually administered.

Mr. Acton, in reply to a question by Mr. B. Travers, junr. said that he gave from eight grains to a scruple of the iodide of potassium three times a day, in a tumbler of the infusion of quassia.

In answer to a question by Mr. Erichsen, Mr. Acton said, that Ricord cut the stricture by pushing, by means of a spring, a cutting edge against it.

Mr. Hancock advocated the use of smaller doses of the iodide than those mentioned by Mr. Acton. He thought that Mr. Acton condemned far too sweepingly the use of caustic in the treatment of stricture. He was anxious to state that, from a more extended trial, he had found it necessary greatly to modify the unfavourable opinion which he formerly held, (and had expressed), regarding this method of cure. In a very severe case, after six applications of caustic, a No. 6 catheter passed. In a case where a common elastic catheter produced violent hæmorrhage, none followed the use of potassa fusa; and after two applications the catheter entered the bladder.

[1] Specimens of these bougies were exhibited by Mr. Acton.

Dr. Richard Chambers said, that the dose which he commonly prescribed was two or three grains of the iodide of potassium; but in syphilitic cases, or when it was of importance to get a rapid effort, he would decidedly be in favour of larger doses. He thought the medicine ought to be administered largely diluted.

Dr. Willshire said that, unless the salt be largely diluted, it was not absorbed. All practical men, he said, were aware of this fact; and he referred, in particular, to the writings of Dr. Golding Bird.

Mr. Erichsen said that Mr. Acton's paper was satisfactory, inasmuch as it showed that we were not much behind French surgeons. He disapproved of Ricord's plan of cutting through strictures: and he also disapproved of conical gutta percha bougies, as their points were too flexible. He preferred steel or wax bougies. Mr. Erichsen commended Donovan's solution (iodine, mercury, and arsenic) in tertiary syphilis, and preferred the iodide of potassium in mild cutaneous syphilis, and syphilitic affections of the periosteum.

Mr. B. Travers, Jun., thought that if all were true which he had heard in this Society, he ought to go to school again. He considered the iodide of potassium had been immensely overpraised: it was often useless, and not unfrequently produced much mischief. He had seen it, when given in two-grain doses for a long period, accumulate in the system, and induce scurvy of the gums, and disease of the bones. Mr. Travers had seen few cases of stricture, in which cutting or caustic were proper; but he admitted the existence of such cases.

Dr. Cormack said, that his experience of the iodide of potassium was very different from that of Mr. Travers. He had seen it given in a very large number of cases of syphilis, both in Paris and in Edinburgh; he had also used it very extensively in his own practice, and he regarded it as a safer and surer cure for syphilis, in the majority of cases, than mercury, which it might generally, though certainly not always, supplant. He could not allow the statements of Mr. Travers to make any impression upon his mind, till he was satisfied that the medicine administered in the cases referred to, was really the medicine prescribed, and not one of those fraudulent compounds sold in the shops as iodide of potassium. Although Dr. Christison had long ago pointed out the disgraceful manner in which the medicine has been adulterated, the practice is not discontinued; and it ought to be known, that in some of the specimens examined by Dr. Christison, there was not more than 9½ per cent. of the pure salt. Carbonate of potassa is the principal adulteration; which may be suspected when the salt is deliquescent. The pure drug is not deliquescent. Iodate of potassa is another adulteration. In reply to a question asked by a Fellow, Dr. Cormack said that the dose and method of administration which he preferred, was from two to three grains three times daily, in distilled water, or some simple bitter infusion. Larger doses might be safe, but he thought that they were seldom necessary; and he doubted if large quantities could be absorbed.

Mr. Acton made some observations upon the remarks of the different speakers, in the course of which he complained that three points, on which he had laid special stress, had not been discussed;—viz., 1. Fumigation; 2. Iron in phagedæna; and, 3. The Injection of Nitrate of Silver into the bladder.

Termination of the Society. The President was unable to address the Society in a speech of any length, from the lateness of the hour, occasioned by the scrutiny of the ballot; the result of which is as follows:

Election. *Vice-Presidents.* Dr. Garrod and Mr. J. F. Clarke. *Councillors.* Dr. E. W. Murphy, Dr. F. Sibson, Dr. Samuel W. J. Merriman, Dr. Tyler Smith, Dr. Cormack, Mr. Greenhalgh, Mr. B. Travers, jun., Dr. E. Lankester, Mr. E. Canton, and Mr. Harvey.

Hearty and unanimous votes of thanks having been carried, to Dr. Murphy, the retiring President; Dr. Sayer, the retiring Treasurer; and Dr. Merriman, the retiring Secretary, the Westminster Medical Society ceased to exist.

[The above-named gentlemen, along with the following, elected by the other Society, constitute the executive of the Medical Society of London, by which name the amalgamated Societies are to be called. *President.* J. Risdon Bennett, M.D. *Vice-Presidents.* W. H. Willshire, M.D., F. Hird, Esq. *Treasurer.* N. Clifton, Esq. *Secretary in Ordinary.* W. Cogswell, M.D. *Secretary for Foreign Correspondence.* T. Davidson, M.D. *Members of Council.* John Bishop, Esq., W. D. Chowne, M.D., W. C. Dendy, Esq., H. Hancock, Esq., E. Headland, Esq., J. Middleton, Esq., G. Pilcher, Esq., W. Smith, M.D., Silas Stedman, Esq., Theophilus Thompson, M.D.

[It will be among the first and most important duties of the office-bearers to prepare a code of laws, and effect the removal of the Library from Bolt Court to the premises in George Street, Hanover Square, which will be opened in October next. It is proposed that the meetings be held in the new rooms every Saturday during the Session, at 8 P.M.]

MISCELLANEOUS INTELLIGENCE.

Western Medical and Surgical Society. This Society celebrated its fourth anniversary on the 12th April, by a numerously-attended *conversazione*, in the large room in the Cadogan Gardens, Sloane Street. Sir B. C. Brodie, President of the Society, was in the Chair, and delivered an excellent address. He advocated the "maintenance of friendly and generous feelings among those who are engaged in the same useful and honourable pursuit, tending to supersede those feelings of distrust, jealousy, and petty rivalry, which are unworthy of a liberal and scientific profession, but which are too apt to exist in any class of society, the members of which are not brought into personal communication with each other. For this reason, and putting aside all other considerations, he was convinced that a Society, such as that over which he presided, must tend, in no small degree, to the comfort and happiness of the individuals of whom it is composed." Sir B. Brodie referred to the difficulties attendant on the progress of the practitioner of medicine; and shewed that the solicitor, the barrister, the clergyman, and the merchant, had each difficulties and dangers to contend with, often producing as much effect on the minds and progress of the individuals, as those which obstructed the paths of the medical man. In speaking of the influence which should be exerted by the medical profession on the minds of those who devote themselves to it, he made the following remarks:

"Their immediate object is always to do good to others—they are engaged in the pursuit of an important science, which concerns the highest interests of mankind in their present state of existence. The medical practitioner must, for his own sake, always aim at the attainment of truth, and endeavour to observe, to think, and reason correctly. All this is good for his moral and intellectual character; and the result is, that, with all our errors, and all the imperfections which belong to us, there is, perhaps, no class in society, on the whole, more liberal, more free from prejudice, and more disposed to render disinterested service to others, than the great body of the medical profession. Then, there is no other profession, in which the individuals belonging to it have to depend so entirely on their own character and conduct. Whatever advantages we may obtain in life, we earn them for ourselves. We require the good opinion of the public of all classes; but we neither owe, nor can owe, any obligations to the favour of the great.

"The medical practitioner who has laboured to obtain an adequate knowledge of his art, and who honestly and diligently performs his duties, has a right to consider himself one of the most independent members of society.

It seems to me, that this sense of independence is not sufficiently impressed on the minds of a large proportion of our profession. There is no one who thinks it worth his while to place himself under our care, to whom we are not really of more importance than he can be to us. But if we would have others do us justice, we must first do justice to ourselves;—and how is that to be accomplished? It is by shaping our conduct with a view to the general result, and obtaining the good opinion of society at large, of persons of all classes, high or low, rich or poor, without reference to what may be said or done in particular cases, or by different individuals. We cannot fail often to meet with perverseness or caprice, or to find, that when we have done that which it is possible, we have not done that which it is impossible for us to perform. But all this need be no more than a temporary annoyance to the upright and diligent practitioner, who is conscious that he has laboured to obtain an adequate knowledge of his art, and that, on all occasions, he endeavours to do his best. But if we claim, as claim we must, that allowance should be made by others for our own failings and imperfections, much more are we called upon to make allowance for the failings and imperfections of those who labour under the inflictions of bodily disease. We have, to a great extent, the power of relieving pain and preserving life; but our power is limited. On the other hand, there is no limit to the desire of obtaining relief, and the anxiety to live may still linger in those who are at the point of death. Under these circumstances, it seems almost a matter of course that those to whom we can render no further aid, and whose minds are probably weakened by previous illness, should be easily induced to seek for aid elsewhere, and be ready to listen to any promises of cure, however vain and absurd, or even dishonest, those promises may be."

This address was listened to throughout with the deepest attention, and the applause at the close was loud and long-continued.

The following gentlemen were then elected to fill the various offices during the ensuing year:—*President.* Dr. Robert Lee, F.R.S. *Vice-Presidents.* Dr. Aldis, Mr. Barnes, Mr. Gaskell, Mr. Godrich. *Treasurer.* Dr. Woolley. *Council.* Dr. Barclay, Mr. Bullock, Dr. Christian, Mr. Douglas, Mr. Ince, Mr. Martyn, Mr. Muller, Mr. Philips, Dr. Simpson, Dr. Traquair, Mr. Whitmore. *Secretary.* Mr. Seaton. *Auditors.* Mr. Keen, and Mr. Webb.

The formal business being concluded, Dr. Mantell, at the request of Sir Benjamin Brodie, favoured the meeting with an address on the osteology and physiology of the colossal reptiles from the south-east of Eugland, of which there were some unique and most interesting specimens, and in conclusion, briefly considered that most interesting and mysterious physiological problem —the appearance and extinction of species and genera.

Swiss Cretinism.—Dr. Guggenbuehl's Treatment of it on the Abendberg. We extract the following from an Edinburgh newspaper. "About eighteen months ago, we commended to the favourable notice of our readers a brief account of Dr. Guggenbühl's benevolent labours, published here under the title of 'The Abendberg; an Alpine retreat founded by Dr. Guggenbühl for the treatment of infant Cretins. W. P. Kennedy, 1848.' Dr. Guggenbühl is now in Edinburgh, for the purpose of advocating the claims of his institution on the attention of the friends of suffering humanity, as well as with a view to extend his own knowledge of those phases of mental alienation, to the treatment of which he has devoted himself. A meeting of gentlemen interested in Dr. Guggenbühl's object was held on Wednesday, 8th instant, at the Religious Institution Rooms, 6, York Place, the Lord Provost in the chair. Dr. Guggenbühl having stated his views of the nature and curability of Cretinism, and an account of the origin and progress of the hospital on the Abendberg having been read by Dr. Coldstream, resolutions, expressive of confidence in Dr. Guggenbühl's proceedings, and of willingness to aid him in the carrying out of his plans for the amelioration of Cretinism and idiocy, wherever these exist, as well as of the desirableness of

something similar being done for the young affected with idiocy in this country, were moved and supported by Professors Alison, Forbes, and Millar, Sir W. Newbigging, William Brown, Esq., Dr. Spittal, and Robert Paul, Esq. A small Committee was formed to maintain a correspondence with Dr. Guggenbühl; and Mr. Paul, of the Commercial Bank, intimated his willingness to receive and transmit any monies that may be contributed for the support and extension of the Abendberg Retreat.

APPOINTMENTS.

BARNES, Dr. Robert, elected Obstetric Surgeon to the Western General Dispensary, Lisson Grove, in the room of DR. HENRY BENNET, resigned.

ELLIS, G. Viner, Esq., appointed Professor of Anatomy in University College, London, in the place of MR. QUAIN, resigned.

LANG, Dr. elected Physician to the Exeter Dispensary, in the room of Dr. TUTHILL MASSY, resigned.

TUNSTALL, Dr. elected Physician to the Eastern Dispensary, Bath, in the room of DR. LINDOE, resigned.

OBITUARY.

BREWSTER, George, M.D., Royal Navy, son of the Rev. G. Brewster, D.D., at Port Royal, Jamaica, on the 5th April.

BUCHANAN, Dr. J. G., in Edinburgh, on 6th May.

DE BLAINVILLE, M., at Paris, aged 71, lately. This eminent Naturalist was the successor of Cuvier in the Chair of Natural History of Paris. He was found dead in a railway carriage, while travelling from Paris to England.

ELLIOTT, Dr. Robert, late Surgeon to the Tempo Dispensary, at Kandy, Ceylon, lately.

GAY-LUSSAC, M., the celebrated chemist and philosopher, in Paris, on 8th May.

GRANTHAM, Mr., Surgeon, 23rd regiment, drowned lately on Lake Erie, through the collision of two Canadian steam-boats.

HEALY, Dr. B., in Dublin, on 26th March.

HEALY, Dr., of the 1st Punjaub Caaalry, at Kohat, killed by the Afreedees, lately.

HUGHES, William, Esq., Surgeon, of 14, Basing Lane, Cheapside, aged 38, at Leicester, on 8th May.

HULL, Thomas, M.D., late of Beverley, Yorkshire, at Lytham, aged 75, on April 27.

LAWSON, Stephen, Esq., Surgeon 7th (Queen's Own) Hussars, and formerly of the 87th and 30th Regiments, suddenly, at Cork, on 4th May.

MILLAR, John, Esq., Staff-Surgeon of the North British District, at Glasgow, on 3rd May.

MILLS, G. Ireland, Esq., late Deputy-Coroner for the County of Middlesex, of ramollissement of the brain, aged 47, on 20th May.

MOUNTFORD, John, Esq., Surgeon, of Gloucester Street, Queen's Square, suddenly, aged 68, on 13th May.

POOLE, Charles, M.D., at London, Canada West, aged 47, on 24th February.

STAFFORD, W. W., Esq., Surgeon, at Brighton, aged 57, on 10th April.

BOOKS RECEIVED.

BOWMAN'S (John E.) Medical Chemistry. London: 1850. CHURCHILL (Fleetwood), Outlines of Midwifery. Second Edition. Dublin: 1850. FOWNES' Manual of Chemistry. Third Edition. By DR. BENCE JONES. London: 1850. MARSHALL on the Anterior Veins. (From *Philosophical Transactions.*) London: 1830. ORR'S Principles of Surgery. Dublin: 1850. REES (G. A.) on Atelektasis Pulmonum. London: 1850. REICHENBACH'S Researches on Magnetism, etc. Translated by Professor GREGORY. London: 1850.

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ORIGINAL COMMUNICATIONS.

CASE OF FIBRO-CYSTIC TUMOUR OF THE UTERUS, WHICH REQUIRED TAPPING; WITH REMARKS.

By PRESCOTT HEWETT, Esq., F.R.C.S.Eng., Assistant-Surgeon to St. George's Hospital.

CASE. M. G., æt. 47, single, was admitted into St. George's Hospital, under the care of Dr. Wilson, with great swelling and distension of the abdomen. The symptoms, which had existed about twelve months, had been at first confined to the left iliac fossa, but had subsequently spread over the greater part of the belly. Fluctuation was very evident in various regions, and the disease presented all the characters of ovarian dropsy. Œdema of the legs was present, as well as pain in the region of the heart, and difficulty of breathing in going up stairs. The general health had not been much affected, but of late she had lost flesh; the catamenia had been absent for the last six months; the urine was scanty and highly acid. She was put on diuretics and good diet. After five days, it was found that she had decreased two inches in circumference round the abdomen, and that there was also much less swelling of the feet. Under this plan of treatment, she, at first, continued to improve slightly; but the symptoms and consequent distress having subsequently increased, Mr. Hawkins tapped the abdomen, and drew off fifteen pints of thick fluid, of a reddish colour, and mixed, towards the last, with blood and some flakes of lymph. After the operation, it was observed, that the decrease in size had occurred principally on the left side, and two masses of solid substance were detected, which appeared to form part of a tumour, rising from the pelvis. The operation was, at first, followed by marked relief; but, two days afterwards, symptoms of low peritonitis appeared, and the patient died, on the eighth day after having been tapped.

EXAMINATION OF THE BODY, EIGHTEEN HOURS AFTER DEATH. The cavity of the peritoneum contained a large quantity of dark-coloured fluid, mixed with flakes of recently effused lymph, which served to glue together the convolutions of the intestines. In its lower two thirds,

the abdomen was occupied by a large tumour, which, rising out of the pelvis, had displaced the intestines, and become attached, by slight adhesions, to the anterior wall of the belly. The upper part of this tumour was composed of large, membranous-looking cysts, with thin walls, the interior of which was inflamed, and filled with a quantity of thick, dark-coloured fluid. It was one of these cysts which had been tapped during life. Towards its lower part, the tumour was principally formed of a more solid substance, and filled with an enormous number of cysts, varying from the size of a pin's head to that of a large orange. These cysts, which were all lined with a thin, smooth, delicate-looking membrane, were filled with clear fluid, containing a large quantity of albumen. The diseased mass was, at first, thought to be connected with one of the ovaries, but both these organs were found to be lying behind it, and quite healthy. On further inspection, the tumour was traced to the right side of the fundus of the uterus, to which part it was connected by means of a pedicle, two inches in breadth, and an inch and a half in length, formed by the fibres of the uterus, which were traced upwards some distance, and then lost. Among these fibres, were several vessels of a large size. Here and there, in the lower part of the tumour, were scattered some spots of fibrous tissue, hard, dense, and without any cysts. In the body of the uterus, deeply imbedded in its structure, there was a common fibrous tumour, of the size of a bean. There was no affection whatever of any of the glands. The other viscera contained in the abdomen, as well as those in the thorax, were all quite healthy.

Microscopic examination proved that the tumour was essentially of a fibrous character.

Remarks. Accumulations of fluid, in connection with Fibrous Tumours of the Uterus, may occur under various forms. As they present all the characters of ovarian dropsy very strongly marked, such cases are of great importance, for they have sometimes led to errors in diagnosis, and to useless operations; especially those cases in which the fluid is poured out into numerous small cysts.

The fluid is sometimes contained in a single cavity, formed by the softening and subsequent removal of the centre of the tumour, the place of which becomes filled up by serum. This, by gradually distending and thinning the outer part of the tumour, may make the disease appear as if it had been, from its origin, a cyst. The quantity of fluid contained in cavities thus formed may be very great.

In other cases there are several cysts containing fluid, which are produced in a different manner. Here, the cavities, lying between the fibres constituting the tumour, are generally towards its circumference, and that principally in cases where the mass, having grown more rapidly than usual, has acquired a large size. In a Fibrous Tumour of the Uterus, weighing fifty-four pounds, which I dissected some time ago, I found several cavities, which were all situated towards its circumference. Some of these were round, others of a semi-lunar shape—the latter appearing to have been the original shape of the greater number of the cysts. Their formation may be thus explained. The tumour was of a pear-like shape, and composed of layers of fibres, presenting a somewhat looped appearance. The extremities of these layers, being firmly con-

nected, formed a perfectly solid mass; whereas the centre of the loops, towards the circumference of the tumour, being but loosely connected by thin cellular tissue, had, in many places, left inter-laminar spaces, which had subsequently become filled with fluid. The cysts thus formed were of various sizes, and few in number; their cavities were perfectly smooth, and not subdivided by bands of cellular tissue.

There is another class of Fibrous Tumours, which appear to have been formed by the union of several smaller ones by means of loose cellular tissue, in the meshes of which, fluid has been thrown out, and has subsequently formed cavities or cysts. In these cases, the cavities, generally speaking, are not of any great size, and the mass looks like a large œdematous Fibrous Tumour. When punctured, but little fluid escapes from them; but, if incisions be made in several places, the greater part of the fluid will drain off in a few hours, leaving a coarse cavernous-looking tissue.

The Fibro-Cystic Tumour described in the case of M. G., cannot, I think, be looked upon as belonging to either of the three varieties already mentioned. From its earliest formation, the tumour was most probably of a fibro-cystic nature, and exactly resembled that form of disease so commonly observed in the ovary, which is composed of uni-locular cysts, of various sizes, closely aggregated together, with more or less delicate fibro-serous walls; in fact, so close was the resemblance, that for some time the mass was taken for a diseased ovary. Portions of it also closely resembled the simple cystic disease of the testis, as well as one form of fibro-cystic disease which I have met with in a large tumour of the breast. The accumulations of solid fibrous tissue observed in the case of M. G., were scattered, and small in comparison to the size of the tumour; whereas the mass of it was made up of cysts, which existed in every part, even close to the root.

ON THE CAUSES, CONSEQUENCES, AND TREATMENT OF INFLAMMATION OF THE VEINS:

WITH CASES ILLUSTRATING THE EFFECTS OF PURULENT INFECTION OF THE BLOOD.

By HENRY LEE, Esq., F.R.C.S.Eng., Assistant-Surgeon to King's College Hospital, etc.

PART II.

(Concluded from page 240.)

VIII. The experiments cited in the first part of this essay, illustrate the power possessed by the blood of preventing certain foreign substances from circulating with it. They shew that pus, in particular, has a tendency to coagulate the blood; and that by this means, when introduced into the vessels, its progress is arrested in some part of the circulating system. This fact, which, taken by itself, might appear of little consequence, assumes considerable importance when considered as one of the inherent properties of the blood, at all times ready, under favourable circumstances, to be called into action in the living body.

The conditions under which pus will determine the coagulation of the blood, and those under which it will circulate in the living vessels, require to be accurately ascertained, in order to reconcile the discordant evidence which we at present have upon this point.

Dr. Sédillot,[1] in a work recently published, mentions, that a great number of cases are met with, in which pus is poured into the general circulation without meeting with any obstruction, and states that, in such instances, he can detect the globules of pus in different parts of the circulating system. He even affirms that he can recognise a disease caused by purulent infection, by examining, under a microscope, a portion of the blood abstracted from the body.

M. Dance, and, since his time, equally accurate observers, have, on the other hand, failed to detect the characters of pus in the blood, even when that fluid had been injected into the veins of living animals. The results of these different observations may perhaps be reconciled, by considering the influence exercised upon the globules of pus by the blood, before its coagulating power has been impaired. This subject appears not to have hitherto occupied the attention of pathologists.

In all the cases quoted by Dr. Sédillot, in which he detected the globules of pus in the blood, the patients had died of the disease; but in the researches instituted by M. Dance and others, the experiments were made upon animals in perfect health. In the latter, the pus cannot enter the circulation, as has already been shewn, or can only do so after the blood has partially or entirely coagulated round it, and the coagulum has subsequently become broken up.

In the act of coagulation under these circumstances, the appearances of the globules of pus are changed,—these being perhaps mechanically compressed by the contraction of the fibrine,—so that the most experienced eye can no longer recognise them.

Pus, mixed with healthy recently drawn blood, out of the body, will entirely lose its characters in this way; and as the coagulation, under similar circumstances, is by no means retarded in the living vessels, we may, without fear of contradiction, affirm, that globules of pus cannot be detected when introduced into the vessels in small quantities, and mixed with healthy blood.

In cases where, from long-continued disease and the repeated introduction of vitiated fluids into the circulation, the blood has lost its power, there appears no reason to doubt the correctness of Dr. Sédillot's observations; and it is probable that pus-globules may then circulate with those of the blood.

In experiments upon animals, it has always been found that the power of the constitution, in resisting the effects of the injection of pus into the veins, was much greater at the first than at any subsequent operation. This circumstance would appear to associate itself directly with the observations now made, and to afford another illustration of the power of healthy blood in resisting the entrance of some foreign matters into the system.

From the consideration of these facts, and of the experiments previously recorded, it becomes evident, that the introduction of pus into the

[1] De l'Infection Purulente, p. 399.

system through an injured or inflamed vein, can rarely be the first step towards purulent infection of the system. Some change must previously have passed in the blood, by which its coagulating power is impaired, or some unusual mechanical means must have been employed, before the pus can find its way in the course of the circulation. The contradictory statements which have been made by those who have injected pus into the veins, may thus be reconciled, by taking into account the power exercised by the blood in the experiments which have been made. There can be little doubt that, while, in some instances, a portion of the pus has been forced into the general circulation, in the great majority of cases it has been detained in the vein into which it was first introduced, and has never become part of the circulating fluid. We accordingly find some experimenters recording the secondary diseases which they observed, while in other hands these appearances were not produced.

Dr. Sédillot[1] has attempted to prove that the globules, or solid parts of pus, must be introduced into the system, in order to produce well-marked indications of purulent infection. But this hypothesis would not only appear to be at variance with the oft-repeated experiments of MM. Gaspard and Cruveilhier, in which similar effects were produced by the injection of mercury and of putrid fluids, but would also leave unexplained the mode of the introduction of these globules, where there is evidence of the disease originating through the lymphatic system. The changes which all substances undergo in their passage through the absorbent glands, would at once forbid the idea that globules of pus could be thus introduced unchanged into the circulation; and yet we have direct evidence (Case XXIX) of irritating fluids being conveyed in this way into the system, and leading to the formation of secondary abscesses.

Another class of cases, in which there would be difficulty in admitting the doctrine of the introduction of pus in substance into the circulation, presents itself, where, in the primary affections (as in Case VI), no evidence can be obtained of the original lesion having suppurated. The fluids effused in such cases may be serum, lymph, or blood, mixed in different proportions; and yet the constitutional symptoms will be exactly similar to those which follow the formation of pus in other cases. There may exist, both in the primary and in the secondary affection, every intermediate gradation between the healthy secretion of a part, and the formation of pure pus, or pus mixed with blood or lymph, without any of the essential characters of the disease being absent. An inflamed bursa, or a punctured wound, without the formation of pus, (Cases IV and V), may give rise to symptoms as severe, and consequences as fatal, as any that arise from the direct introduction of pus into the system. The secondary affections, in such cases, may run their course

[1] In deducing general conclusions from experiments upon animals, it must be borne in mind, that in them suppuration is induced with great difficulty. Many of the appearances produced by the injection of putrid fluids (as in Experiment XIV) would, in man, probably have terminated in suppuration. Dr. Sédillot has nevertheless established the fact, that, generally speaking, a different class of post-mortem appearances may be expected from the introduction of decomposed serum, to those produced from fluids containing solid particles.

and prove as speedily fatal, as where well-formed purulent deposits have taken place. The most severe constitutional symptoms will sometimes be followed by the effusion of bloody fluid only, in one of the serous cavities (Case xxx). It would be unphilosophical, even were it practicable, to refer such cases to a different disease, merely because the accidental circumstance of the formation of pus is wanting. The origin of the affection in such instances may be as well-marked, the poison can often be traced as distinctly into the system, and the secondary disease may be as clearly connected with the primary, as in any case where pus has been originally formed. In some cases again, the constitutional symptoms which accompany, or are followed by, effusions into distant parts of the body, begin before sufficient time has elapsed to allow the supposition that pus can have been fully formed at the original seat of injury. Such instances occasionally, although rarely, present themselves in extensive burns and scalds, occurring in enfeebled habits, and after amputation of the limbs in scrofulous children.

In nearly all cases, when the origin of the constitutional disease cannot be traced to the introduction of diseased fluid into the system through an open vein, it will be found that the part primarily injured has wanted the degree of vigour, requisite to establish and maintain healthy adhesive inflammation.

In the first part of this paper,[1] I have endeavoured to show that, where lymph is effused around a poisoned wound, the virus will find its way less easily along the absorbent vessels, than when no such effusion has taken place; and that when, in such a wound, the effusion of lymph is checked or prevented, as by the administration of mercury, a larger proportion of cases will indicate an affection of the lymphatic system, than when the natural process has not been interfered with. There can be little doubt, that the same principle may be observed with regard to ordinary wounds. The number of cases in which the absorbents inflame, will be in inverse proportion to the number of those in which the original wounds are circumscribed by healthy adhesive inflammation. In Case xxvii, it is mentioned, that the surface of a muscle, implicated in the original lesion, was as cleanly dissected as if with a scalpel, thus showing the total absence of any surrounding effusion of lymph. The absence of, or defect in, the process of adhesion may thus be associated with inflammation of the absorbents, as the want of "union by first intention" has been shown to be connected with inflammation of the veins (Section ii.)

The minuteness of the absorbent vessels, and the changes which their contents undergo in their glands, prevent any unhealthy fluids from being as readily recognised in them as in the veins. But when the progress of inflammation can be traced along these vessels from a wound, towards the centre of the circulation, marked, as it often is, at intervals, by the formation of abscesses, we cannot doubt that an irritating fluid has found its way along their canals: and when the constitutional symptoms, which arise at the same time, terminate in the formation of purulent deposits (as in Case xxix), we cannot but admit that the absorbent vessels are the direct means by which, in such cases,

[1] London Journal of Medicine, vol. i, p. 709.

diseased secretions are poured into the blood, and the system becomes infected. It would, therefore, appear that there are two principal conditions, under which local disease may produce a general infection of the system by the direct introduction of vitiated fluids into the blood. The first of these is connected with defective union in injured veins; the second is associated with want of healthy adhesion in inflamed lymphatics.

The period of invasion of the attack differs in some degree in the different classes of cases, but it is generally marked with great precision: even when apparent recovery has been followed by a second attack, the occurrence has in each instance been accurately noted by the sudden appearance of constitutional symptoms (see Case XXXVII).

When one of the large veins has been originally affected, the period which elapses before symptoms of infection of the system manifest themselves, is comparatively short (Case I). In cases occurring after child-birth, it is usually longer, extending to the end of the second week. After surgical operations or accidents involving some portion of bone, the access of the disease will be marked by a rigor during the third or fourth week; and finally, when the absorbent system is primarily affected, the period of the occurrence of the constitutional symptoms may be much farther removed from that of the original injury (if any such existed), and is by no means so accurately defined.

At the time of the occurrence of the general disturbance of the system, the local injury or wound will generally put on an unhealthy appearance. The skin in the immediate neighbourhood will sometimes assume a dull brownish-red appearance, which will gradually fade into the colour of the surrounding parts. This symptom will usually commence near the termination of those vessels, which are derived from the same trunk as those which supply the injured part. When the original injury is complicated with a wound upon the surface of the body, it will usually become dry and glazed, and the blush upon the skin will commence in its neighbourhood, or a short distance from it, and will usually extend towards the centre of the circulation, without presenting any very defined margin: occasionally it will extend, in the form of erratic erysipelas, over a large part of the body.[1]

IX. The commencement of constitutional disease, after direct infection of the blood, is marked by a sudden change in the manner and appearance of the patient; a severe rigor is usually the most prominent symptom, and is followed by much febrile excitement, or by extreme depression; a very peculiar heat of skin (Case XXII) will sometimes be present, while, at other times, the surface will be covered by a profuse clammy perspiration. The rigor may be repeated at irregular intervals, but occasionally it will recur about the same hour for three or four days in succession (Case XXXVII), and in a few instances it will not be observed at all.

Great depression frequently accompanies even the first stages of this disease, indicated by a want of tone in the pulse, by an extremely listless

[1] In a case of fracture of the femur into the knee-joint, I saw a dark ill-defined erysipelatous blush extend from the affected limb to the body, and thence to the head. Purulent deposits formed in various parts of the body, of which the patient died.

manner, and sometimes by a tendency to syncope (Case I). The countenance becomes anxious, the tongue dry and brown in the centre, and red at the edges, or, in other instances, it presents a coating of a pasty yellowish-white colour; a dusky yellow hue frequently pervades the skin, and sometimes the conjunctivæ of the eyes. This may or may not depend upon an accompanying affection of the liver. The pulse varies much in frequency in different cases, and at different times in the same case: generally it is very rapid, especially when accompanied with much heat of skin.

The pain is sometimes severe, and may be referred exactly to the spot which subsequent examination shows to have been the seat of secondary inflammation; at other times it is not confined to any particular situation, but consists of general ill-defined feelings of short duration, and recurring at irregular intervals. The peculiarity of such sensations is best expressed by the terms applied to them by the patients themselves. "Catching pains all over", "soreness of the stomach", and "thrilling in the blood", not unfrequently accompany this disease.

Vomiting may occur, either as a symptom of constitutional disturbance, or as indicative of inflammation of an abdominal organ (Case XXVI). In the latter case, it is extremely obstinate, and the fluid ejected is generally of a green colour. Diarrhœa is a symptom of frequent occurrence, and appears to exercise a considerable influence on the course of the disease. Its appearance will not unfrequently be accompanied by relief of the other symptoms (Case III); when it occurs, it is generally profuse, and little under the control of medicine, but, if checked, may be followed by a sudden change for the worse in the condition of the patient.

The intellect is seldom affected during the first stages of the complaint; but subsequently, in severe cases, restlessness, delirium, and coma, seldom fail to succeed each other. These symptoms are all peculiar, both in regard to the rapidity with which they make their appearance, and also the sudden manner in which they occasionally disappear. The disease may seem, within a few hours, to leave a part which it has first attacked, and to fall upon a different organ in some remote part of the body.

X. The post-mortem appearances observed in those who die in consequence of the introduction of vitiated fluids into the blood, cannot, for the most part, be distinguished from similar changes produced by other causes; yet there are some effects which are peculiar, and may be directly associated with the reception of foreign matter into the circulation. The most characteristic circumstance, attending the extension of disease to different organs of the body through the medium of the blood, is that several parts of these organs, or even different organs, will be simultaneously attacked. The disease will appear at once in various spots, which will become rapidly disorganized, while the surrounding textures will remain unaltered, either in structure or colour. The appearances observed upon dissection will vary according to the part attacked, and the stage of development in which the disease is found.

The lungs are the organs in which the successive changes may best be observed. When puriform fluid has entered the circulation,

the first appearance produced in the structure of the lungs, is that of one or more congested or dilated veins[1] of very small diameter. This will be followed by a well defined spot, of much darker colour than the surrounding texture (see Plate, facing p. 624.) Several of these spots will probably appear at the same time, and each one of them will soon become surrounded by a hard spherical patch of purple congestion. Effusion of lymph will now take place, commencing in the centre of each affected portion, and gradually extending towards its circumference. If the disease continue, each spot will suppurate, and the different parts will become softened and broken down, in the same order in which they were previously solidified.

The liver frequently becomes the seat of secondary inflammation. In the early stage, brownish-red spots may be observed scattered through its substance. These, as they extend, assume a bluish or slate colour; and the structure of the liver thus affected is found to have lost its consistence, and to be very easily broken down by pressure. Every part affected here, as in the lungs, proceeds rapidly to suppuration; and the usual appearance presented after death, is that of several small circumscribed abscesses, around which the structure of the liver has been condensed only to a very small extent. It sometimes happens, that the larger veins in the liver become inflamed. These vessels, being held open by the firm structure of the part, are not so readily obliterated as in other situations; and it consequently happens, that the lymph and pus poured into them become irregularly mixed with the blood, more or less perfectly coagulated, which they contain: a very peculiar mottled appearance, resembling granite, is thus occasionally produced.

Affections of the spleen, produced by the introduction of foreign matter into the blood, are probably not so readily recognised as similar affections in the lungs and liver. For, although the spleen is often found to be diseased in those who die from infection of the blood, yet it is comparatively seldom that secondary abscesses have been found in it. In the accompanying table, containing twenty-three cases, some morbid appearance, not recognised as peculiarly the result of secondary inflammation, was observed in the spleen in no less than eight instances. So large a proportion of cases renders it probable, that the alterations observed have more than an accidental connexion with the disease of which the patient died, although they presented no characters which could be said to be peculiar to that disease. In well-marked cases of secondary affections of the spleen, one or more well defined, but frequently irregular indurations, of a chocolate colour, may be recognised; such patches are usually seen soon after the commencement of the complaint, and very soon become softened or broken down. The rapidity with which they lose their original character, may probably account for their being comparatively seldom observed in post-mortem examinations.

Deposits of lymph are sometimes met with in the kidneys; but these are of small extent, of a light colour, and resemble lymph deposited in consequence of ordinary inflammation. The patches of congestion, so characteristic of this disease in other organs, are not here observed.

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[1] For the knowledge of this fact, I am indebted to Mr. Cæsar Hawkins, of St. George's Hospital.

This may depend upon the peculiar disposition of the capillary system of the kidney. The blood has to pass through the Malpighian tufts, and may be purified, or altered in character, before it reaches the proper venous system of the organ.

In cases where purulent infection of the blood has been purposely produced, portions of the kidney will not unfrequently be found inflamed and firmer than natural; but, if the origin of the disease were not known, these appearances could not be distinguished from those produced by inflammation of the kidney from other causes.

The skin is liable to be affected in three different forms. (See Cases I, II, III, IX, X, and XXXIV.) The first of these occurs very rarely, and consists of small deposits of matter in the structure, or upon the surface of the skin, resembling in many respects the pustules of small-pox. The second form is also of rare occurrence, and consists of small congested spots on the surface of the skin. These are generally of a dark purple hue, but I have seen one case in which they were of a bright red colour. In this instance, a secondary abscess had formed in the knee-joint, and some pustules appeared upon the skin in the neighbourhood. A fortnight before the death of the patient, a number of small bright red spots made their appearance in different parts of the thigh and upper part of the leg; some of these were three or four lines in diameter, while others were so small as not to be seen without attention; they appeared in accurately defined spots, of a brighter colour than the mucous membrane of the lips, and continued unchanged in appearance till death. The third form presents itself much more frequently than either of the others, although it has not hitherto much attracted the attention of pathologists, in connexion with purulent or other infection of the blood. It commences very suddenly, and frequently without any particular attention being directed to the part. A large circular patch of congestion, livid or purple in the centre, but becoming of a lighter colour towards the circumference, will form, usually upon some part of the lower extremities. The skin of the calf of the leg is perhaps more frequently attacked than that of any other part. In the centre of the congested portion, mortification very rapidly takes place, and is indicated by the part assuming a black or dull leaden colour. In some cases, it would be difficult to say where the mortification ceases, and the congestion begins; but in other instances, there is a distinct line of demarcation formed: a zone of bright red congestion will then occasionally surround the mortified part.

Some modifications of this third form of affection of the skin may be met with occasionally in the course of the disease. Blotches assuming a livid or dusky red appearance (which gradually fades into the colour of the surrounding skin), will present themselves in different parts (Case XXXVI). In some instances, the superficial portions only of the skin are destroyed, and the parts beneath appear comparatively unaffected; small circumscribed portions of the outer layer of the skin will exfoliate, and the subjacent parts will heal without suppuration, by a process similar to that of scabbing (Case III).

It is remarkable in this disease, that the most vascular parts are those which soonest lose their vitality. Thus, in the case last referred to, portions of the surface of the skin perished, while the deeper layers

recovered; again, it is not unusual to observe the whole thickness of the skin destroyed, without any corresponding affection of the cellular membrane beneath. The quantity of blood sent to a part would thus appear to favour mortification in this disease. The reason of this peculiarity will be considered in the next section.

In two of the instances recorded in the Appendix (Cases XXII and XXVI), the lining membrane of the rectum was found of a very dark colour, and in one it had assumed a greenish appearance. This discoloration was at first looked upon as some accidental complication, or as depending upon previous disease. But M. Gaspard has noticed a similar condition, after the artificial introduction of putrid fluid into the blood.[1] In one of the experiments referred to, the mucous membrane of the intestines was everywhere healthy, except in the *rectum* and *duodenum*. In the former situation, the rugæ were prominent, and of a violet colour; in the latter, the membrane was of the colour of pale lees of wine. From the coincidence thus observed, we are led to believe that the same condition which produces congestion in the skin, may produce an analogous affection of the mucous membrane. Nor must we omit to note, in connexion with this subject, the fact of the mucous membrane of the vagina being occasionally found of a dark purple colour in those who die of puerperal affections.

In the cellular membrane, serum, lymph, and pus, may be deposited, mixed with each other in various proportions. The surrounding vascularity, in these cases, is unusually small, and the lymph effused not properly organized; there is, consequently, no natural boundary to the disorganizing process, and the fluid secreted becomes infiltrated in the surrounding parts.

When the muscular structure is affected, suppuration takes place with great rapidity; portions of muscles may be found quite soft, and sometimes pultaceous, in circumscribed patches, around which the fibre is perfectly healthy. Pus is occasionally deposited on the exterior of muscles; and it will be then smeared over the surface, and rather infiltrated in the cellular tissue, than contained in a cyst. In the interior of muscles, there is the same absence of the natural limit to the inflammation; but, owing to the more compact structure of the part, the deposits of matter generally remain circumscribed.

The brain and its membranes frequently present diseased appearances in those who die from secondary inflammation; these, for the most part, may be altogether independent of any peculiar effects of the disease; but, in some cases, it appears probable that they are not altogether unconnected with it. In one of the accompanying cases, the *pons Varolii* and *medulla oblongata* were found of a pink colour, in consequence of congestion, where the system had become contaminated by the absorption of diseased secretion; and, in another, a layer of purulent lymph was found within the cavity of the arachnoid, accompanied by marks of inflammatory action in the fourth, and in one of the lateral ventricles.

The serous membranes are peculiarly liable to be attacked by secondary inflammation; and, when affected, suppurate with the greatest readi-

[1] Journal de Physiologie, t. iv, p. 45.

ness. They generally exhibit but a slight degree of vascularity, and sometimes scarcely appear more injected than in their natural condition. In the peritoneal cavity, large quantities of unorganised lymph are frequently poured out, mixed with turbid serum or pus. The synovial membranes of joints, when affected, appear to run directly into suppuration, and will become distended with pus in a very short space of time. The pleura, on the other hand, will seldom suppurate at first; but lymph will be deposited upon its surface, and its cavity will contain turbid serum, occasionally mixed with blood.

XI. In the first sections, the changes produced in the blood, both in and out of the body, by the admixture of purulent or diseased secretions, were considered; and, in the last section, the post-mortem appearances observed in the different organs of those who have died in consequence of secondary inflammations, have been described. It now remains to connect these two series of observations, and to trace the relation that they bear to each other.

The most direct way in which diseased blood produces disease in the parts to which it is conveyed, is by communicating to them its own condition. Even foreign substances, which have no natural connexion with the body, may, in this way, be conveyed in the blood, and deposited in the organs of the body. Hunter relates a case,[1] in which a house-painter, who had been paralytic in his hands and legs for a considerable time, had his thigh broken, and died, about three weeks after, of the accident: "On examining the body, after death, the muscles, particularly those of the arms, had lost their natural colour; but, instead of being ligamentous and semitransparent, as happens in common paralysis, they were opaque, resembling exactly in appearance parts steeped in a solution of Goulard's extract. From this case it appears, that the lead had been evidently carried along with the blood into the muscles themselves. The blood can thus receive and retain extraneous matter capable of destroying the solids."

If foreign matter may, in this way, be conveyed to different parts of the frame, and there produce its chemical effects, it will readily be admitted, that a mechanical or vital action commenced in the blood,[2] may be continued in it when moved to a different part of the body.

In those who die of secondary inflammations, the result of such actions may frequently be traced from the seat of the primary injury even to the heart itself; and, as it has already been shown that contaminated blood will communicate morbid action to the vessels in which it is contained (section III), there no longer remains any difficulty in accounting for the sudden way in which this disease may fall upon a particular organ, or the unexpected manner in which the symptoms may shift from one part of the body to another. The conditions of the blood, which may be observed upon dissection, in this disease, so far as they tend to illustrate the present subject, may be included in two general expressions: 1st, those in which the blood has had a preternatural tendency to coagulate impressed upon it; and, 2nd, those in

[1] Op. cit. p. 99.

[2] It may appear unusual to speak of action going on in the blood; but, in so doing, we only illustrate the principle with which we commenced, viz., that "the blood has the power of action within itself."

which its coagulating power has, to a greater or less extent, been impaired. In one case, the blood is generally found of a dark colour, with firm, and sometimes adherent coagula in the vessels; in the other, it is thin and fluid.

When a preternatural tendency to coagulate has been impressed upon the blood, it will lodge in different parts of the vascular system, in situations which are most favourable to such an action; when, on the contrary, it has lost its coagulating power, extensive effusions may be expected, and the symptoms included under the term "gangrenous diathesis" will generally manifest themselves.

As the aggregate diameter of the vessels in the body decreases, the blood in them flows with greater rapidity and force; and when near the heart, it is placed in circumstances unfavourable to coagulation, in consequence of the rapid motion there communicated to it; and we accordingly find that, although adherent coagula may be formed in the veins leading from the seat of injury, and may be traced thence through other larger vessels, they will usually terminate abruptly, when these open into the vena cava. But when the blood arrives in the cavities of the heart, the tendency to coagulate may again manifest itself. Diseased coagula, presenting a "mottled appearance, partly brown, and partly of a dirty yellow colour", or "dark coloured, and partly composed of a yellowish grey opaque substance", or "with portions inelastic, and of an opaque yellow colour", will be found entangled among the projecting fibres of the auricles and ventricles. In the arteries, the blood is in the most unfavourable circumstances for coagulation during life, in consequence of the comparative smallness of their diameters, and the succession of impulses communicated to their contents; but even here, diseased and adherent coagula may be found in cases of secondary inflammations.

M. Cruveilhier[1] relates an instance in which, after child-birth, the pulmonary artery was found filled with coagula following its divisions. The principal clot had lost its colour, and was *adherent* to the sides of the vessel, and contained in its centre puriform fluid.

In another case, following the operation for necrosis, the following post-mortem appearances were observed. The left lung presented, in several places, patches of red hepatization, perfectly defined, and resembling so many spots of lobular inflammation. When cut into, these patches presented several puncta of puriform fluid. The *veins* of the lung contained fibrinous-looking coagula blocking up their cavities; and in the centre of these coagula was a whitish purulent looking fluid.

The diseased condition of the blood may thus be traced visibly from the original wound, through the larger vessels, to the heart, and again from the heart to the capillary system. The disposition to coagulate, once impressed upon the blood, is not destroyed by that fluid being conveyed to a different part of the body: the action may be retarded by motion in, as well as out of the body, but will nevertheless occur when it is placed under more favourable circumstances.

These circumstances, in the living vessels, are when the blood becomes separated into small quantities, and when it moves slowly

[1] Op. cit. p. 669.

along the capillaries. The blood will then coagulate in circumscribed patches,[1] as illustrated in the first characteristic marks of secondary disease which have already been mentioned as occurring in the lungs, the liver, the spleen, and the skin. The accompanying plate is taken from the lung of a donkey in which purulent fluid had been made to circulate with the blood. The stagnation of the blood, when the pus was first introduced, was mechanically prevented, and the livid spots produced by its subsequent coagulation in the capillaries of the lungs has been very faithfully represented. (See Experiment No. VI.)

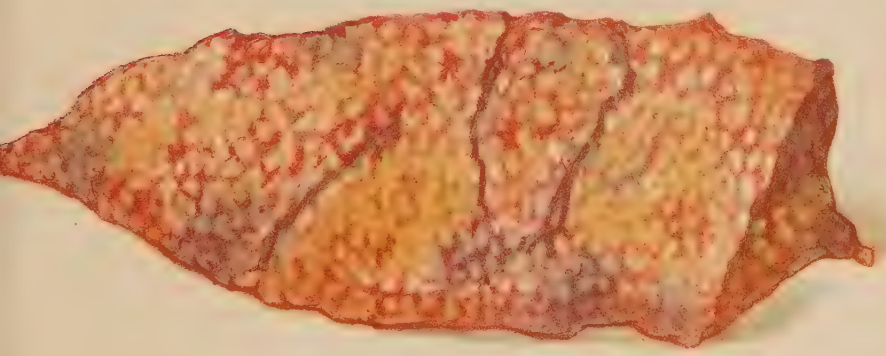
"Besides the disposition for coagulation," observes Mr. Hunter, "the blood has, under certain circumstances, a disposition for the separation of the red globules, and probably of all its parts; for I have reason to believe, that a disposition for a separation of the red part and coagulation, are not the same thing, but arise from two different principles. This is always observable in bleeding; for if we tie up an arm and do not bleed immediately, the first blood that flows from the orifice, or that which has stagnated for some time in the veins, will soonest separate into its three constituent parts: this circumstance exposes more of the coagulating lymph at the top, which is supposed by the ignorant to indicate more inflammation, while the next quantity taken suspends its red parts in the lymph, and gives the idea that the first small quantity had been of such service at the time of its flowing, as to have altered for the better the whole mass of blood. Rest, therefore, may be regarded as one of the immediate causes of the separation." *Hunter*, p. 29.

This disposition of the blood to separate into its constituent parts is evinced in a very marked degree in one class of secondary affections. Extensive effusions of serum, lymph, and pus, mixed in different proportions, will take place in the serous cavities of the body, and become infiltrated in the cellular membrane, accompanied with very little vascular action in the parts. The colouring matter of the blood will also sometimes become effused with its other parts; but when this is the case, they will be found to have lost altogether the power of coagulation: in this respect presenting a direct contrast to the blood effused from a healthy wounded vessel. The lymph deposited will be found lying in unorganized flakes, wanting its usual adhesive properties, and very slightly attached to parts, presenting little or no increased vascularity. The rapid manner in which these effusions take place, shows that they are separated from the blood without undergoing any very elaborate process. In this condition of the system, any organ upon which the disease falls, may rapidly become disorganized and will readily mortify, and, after death, a tendency to rapid decomposition will be manifested. The veins on the surface of the body may frequently be traced as dark blue lines, as though the skin covering them were stained by the colouring matter of the blood. The lungs and other organs may, under these circumstances, be found in every grade of disorganization, till they present all the characteristics of gangrene: even the peculiar fetor which accompanies mortification of the lung, will, in some instances, be pre-

[1] The term ecchymosis does not appear appropriate to the discoloured condition of parts observed in the commencement of this disease; the blood is not at first extravasated from the vessels, as the term frequently employed would indicate.

PLATE SHEWING THE FIRST MORBID APPEARANCE PRODUCED
BY THE STAGNATION OF VITIATED BLOOD IN THE CAPILLARIES OF THE LUNGS.

Surface of Lung with Pleura removed.



Section of Lung.

DR WESTMACOTT AD NATM FINXT OCTR 1846.

sent. In this condition may also be observed a tendency to the formation of petechial spots in different parts; and even the organs which do not appear to have been the peculiar seat of the disease, will be found to have lost their consistency, and to break down upon comparatively slight pressure.

Mr. Hunter found, that in proportion as the blood retained the power of coagulation, it had the power of resisting putrefaction; and conversely, we observe that, in this class of cases, the deficiency of the former is accompanied in a marked manner with the absence of the latter.

The two conditions of the blood which have now been mentioned, appear to bear a direct relation to the two classes of post-mortem appearances, observed in cases of secondary inflammations: the first being generally connected with congestion of different organs during the first stages of the disease, the second with extensive effusions, accompanied with comparatively little vascularity.

XII. The treatment of secondary inflammations naturally divides itself into local and constitutional, both as regards the primary lesion and the subsequent affections. The circumstances which interfere with union by the first intention in veins, have been shown to be the same as those which precede the formation of purulent deposits, in a large class of cases. Whatever then tends to favour the healthy reparation of a wounded vein, may be regarded as affording security against any subsequent disease; but the chief point in the local treatment is, perhaps, to prevent any accidental circumstances from interfering with the natural process of repair. When the powers of the constitution are enfeebled, even the natural motions of a part may interfere with recovery, and rest sometimes becomes an important object in the treatment. How necessary this is after child-birth, when the divided veins are being closed, every one who has attended such cases practically knows.

Again, after bleeding, the arm will inflame in a much greater proportion of cases, when the patient is obliged to follow his usual occupation, or when, from accidental circumstances (as from the pain experienced in Case I), the arms are kept in motion. It has occurred to me, to see the symptoms of purulent deposits set in, on the day following prolonged attempts to bring fractured portions of bone into position. In all such cases, any external violence (as in Experiment No. VI), or even the motion of the body, as in Dr. Davis's case (section IV) may loosen the coagula formed, either between the wounded edges, or in the cavities of veins. In the treatment of the local injury, a valuable hint has been left us by Mr. Hunter, connected directly with the consideration of the pathology of the disease. "The way in which sore arms after bleeding come on, shows plainly that they arise from the wound not healing by the first intention"; and he recommends that the two sides of the vein should be approximated by a compress, until union of the divided edges has taken place.

It has been shown upon very high authority, that the sides of a vein do not unite after venesection (as has sometimes been presumed to be Mr. Hunter's opinion); but that the divided edges only of the vessel are agglutinated by the coagulum, which "serves as a bed to the new

membrane." But the case is different, should this first attempt at union fail; the sides of the vessel may then become united, and its cavity for a time obstructed (section IV). The approximation of the sides of the veins would materially facilitate this action, which is the natural security, under the circumstances, against the admission of foreign matter. When an abscess is suspected to have formed in a vein, a similar mode of treatment is recommended by Hunter; the compression, in this case, being placed between the inflamed part and the centre of the circulation. In the pathological museum of the College of Surgeons, one of Mr. Hunter's preparations (No. 1728) exhibits such a case, where, from the imperfect union of a vein, the contents of the abscess had become mixed with the blood.

As the process of reparation has been variously described by authors, so the different theories propounded have led to different kinds of treatment. At the Veterinary College, even within the last few years, it was publicly taught, that a coagulum in a vein was a foreign substance, and ought to be removed; and the jugular vein in horses which had been bled, was sometimes slit up for several inches, in order to remove the coagula which formed in successive portions of its course.

That a coagulum in a vein may be an irritating substance has been fully proved (sections I and II); but the irritation depends upon the accidental admixture of foreign matter: and the process that consequently takes place requires to be carefully distinguished from the natural mode of union by the first intention.

To remove coagula which have formed round purulent secretion (if such could be recognised), might be to remove a cause of irritation; but to remove them in ordinary cases, is to remove the very means prepared by nature for the restoration and safety of the part. In operations involving large vessels, the local conditions which may influence the actions in the veins, appear not to have been fully determined; for while some surgeons regard the tying or cutting of a vein as a serious operation, others are in the constant habit of doing it with impunity. In operations upon hæmorrhoidal tumours, the veins involved are of some size, and in two of the instances recorded in the Appendix, a ligature applied to them was followed by purulent deposits. In the usual operation of passing a needle armed with a double ligature through the base of such a tumour, the hæmorrhoidal veins are necessarily sometimes wounded, and there is danger that, in tying the ligatures, the sides of a wounded vein may be drawn asunder. The vessel may thus be held open, and be in a similar condition to the vessels contained in bony structures.

A safe way of performing this operation, when admissible, is to destroy a portion of the mucous membrane with strong nitric acid. The blood in the vessels then becomes charred, and their cavities obstructed, till they are permanently closed by adhesive inflammation. Every means of treating a local injury which tends to produce healthy union or adhesion, may be considered in some sort as a preventive mode of treatment. Position, topical applications, bandages, and temperature, may all have their influence in producing these healthy actions; but, as the wounds which precede purulent deposits are generally characterized by feeble powers, those conditions which tend to invigorate

the parts are principally indicated. "When action is greater than strength, whatever has the tendency to raise the power above irritability should be used: the object of this practice consists in bringing the strength of the constitution and parts as near upon a par with the action as possible, by which means, a kindly resolution or suppuration may take place, according as the parts are capable of acting." The irritability of a wound frequently appears nothing else than a series of attempts to bring about an action, which it has not the power to accomplish: as soon as that is fulfilled, which the necessity of the parts demands for their healthy condition, irritation will cease. In such cases, everything that will confer strength to carry out the intended action, will prevent inflammation. But no local applications will be sufficient to produce this effect, unless the powers of the constitution are supported at the same time.

A heavy man received a wound in the back of his head from an iron spike; he was kept very low, complaining occasionally of want of food. Repeated hæmorrhage took place at intervals of a day or two, which no local applications could suppress, and he ultimately died from loss of blood. The wound was found to extend through the bone into the lateral sinus, which contained only some fluid blood. No inflammatory action had taken place within the skull.

The constitutional treatment of wounds, liable to be succeeded by purulent deposits, is most important; for during the healing of the primary wound, the system may be influenced by remedies, which may be subsequently quite useless. It is evident, observes M. Cruveilhier,[1] that the treatment of phlebitis ought to be concentrated on the first period of the disease, viz., that of the coagulation of the blood; for as soon as pus has become mixed with the circulating blood, medicine is generally of no avail. When there are indications of the extension of inflammation along a vein, the mode of treatment usually adopted in this country has been the administration of calomel and opium; and, in France, general bleeding, but especially the application of large numbers of leeches. "We may subdue inflammation of veins, whatever their situation, by general blood-letting, and especially by local bleeding, repeatedly sufficiently often and in sufficient quantities!"[2] It is true that patients recover after such treatment; but the published records of cases not unfrequently terminate with such a description as the following: "The patient was repeatedly bled, and with apparent relief every time, the blood being extremely sizy. *Two days, however, previous to death, the vital principle was so exhausted as to need the use of cordials!!*"

If the explanation of the mode of adhesion in veins already given be correct, neither the propriety of bleeding, nor of the administration of mercury, as a rule, derives much support from a consideration of the pathology of the disease. Careful comparative experience is required, before either of these plans can be adopted as a recognised mode of treatment. Satisfactory evidence in favour of the employment of these remedies is still wanting; and, indeed, the numerical evidence which we have in some instances, tends to indicate an opposite plan of treatment.

[1] Op. cit. p. 662.

[2] Ibid.

At a period when puerperal fever was rife, forty cases, attacked with some form of the disease, "were treated without any bleeding or leeching, or without any attempt to induce the constitutional effects of mercury; and of these, only two died."[1] "In irritable habits, when the inflammation becomes more diffused," says Mr. Hunter, "bleeding should be performed with great caution: even a quick, hard pulse, and sizy blood, are not always to be depended upon as sure indications of bleeding being the proper method of the resolution of the inflammation; more must be taken into the account. The kind of blood is of great consequence to be known; for although it should prove sizy, yet if it lies squat in the basin, and is not firm in texture, and if the symptoms at the same time are very violent, bleeding must be performed very sparingly, if at all; for I suspect, that under such a state of blood, if the symptoms continue, bleeding is not the proper mode of treatment. If we had medicines which, when given internally, could be taken into the constitution, and were endowed with a power of making the vessels contract, such, I apprehend, would be proper medicines. Bark has certainly this property, and is of singular service, I believe, in every inflammation attended with weakness; and therefore, I conceive, should be oftener given than is commonly done."

In bleeding women suffering from puerperal fever during an epidemic, in which the disease frequently terminated in purulent deposits, I have frequently seen an irregular transparent bluish layer form upon the surface of the blood, almost immediately after the operation; in consequence of this, a repetition of the bleeding was sometimes had recourse to, when the subsequent stages of the disease appeared to indicate that it had not been required. The transparent layer of lymph on the surface of the blood, may, in such instances, be only an indication of its tendency to separate into its different parts, as previously described. Large bleedings, under such circumstances, inasmuch as they tend to diminish the already enfeebled power of coagulation in the blood, may predispose to the infection of the system, and to the formation of purulent deposits. The action of mercury upon the system, as illustrated in Case XXVI, may have the same tendency.

The action of mercury, so far as it can be traced upon the surface of the body, is certainly unfavourable both to union by the first intention, and to adhesive inflammation; and, inasmuch as the safety of the patient depends upon the due performance of these processes after an injury or wound, its effect upon the system must be regarded as of at least doubtful advantage.

When salivation has been induced, serum is poured out, and the texture of the gums is loosened and rendered spongy. When lymph is effused upon the iris, the action of mercury loosens its adhesions, and dissolves its connexions; it cannot, therefore, be supposed that its action upon the system should render the union of divided vessels stronger, or the newly-formed adhesions in wounds firmer. The cases in which purulent deposits usually form, indicate a debilitated state of constitution. They are of much more frequent occurrence in large towns than in the country, and in hospital than in private practice. The de-

[1] Fergusson (Dr.) On the Diseases of Women. These cases formed one-fifth of the whole number treated.

pressing influences which they give to erysipelas, or puerperal fever, will also predispose to the formation of these abscesses; and as scanty diet, loss of blood, debilitating surgical operations, and over-crowded rooms, have been found among the causes of the former, so may they be looked upon as favouring the production of the latter. The Treatment of Inflammation of the Veins, in which purulent deposits frequently originate, is thus spoken of, from the result of lengthened observation: "All the experience that I have had on the subject, would lead me to believe that, like erysipelas, it has its origin in a low asthenic state of the system, and that those persons are especially liable to it, who have been much lowered by hæmorrhage at the time of an operation, or by too scanty a diet afterwards. An operation is a shock upon the system, making a great demand upon the vital powers. The effects of this shock are often much aggravated by loss of blood, and a very scanty diet actually makes the patient more liable to some kinds of inflammation. Our mode of practice ought to be rather to sustain his powers by allowing him wholesome nourishment, and not to add to the influence of the other depressing causes, the still worse one of starvation."[1] But as there are many circumstances, besides mere debility, which tend to produce a depressing effect upon the vital powers, so tonic medicines, and a generous diet, must not be looked upon as the only preventive modes of treatment. Each case that occurs in practice may present some peculiarity; in one case, the patient will be found to have previously suffered from diabetes; in another, from disease of the spleen; and in a third, from organic disease of the kidney; and, in each of these, a peculiar mode of treatment may be required. The general treatment of this disease, after the formation of purulent deposits has commenced, is probably as little satisfactory as any that come under the notice of the surgeon. The whole character of the affection is characterized by what has been aptly designated as action without power. The excitement of the system will imitate all the acts of genuine inflammation, without any of its healthy results; and loss of energy will appear immediately after, or even arise in conjunction with, the first symptoms of increased action.

In the treatment of such deposits, it must be borne in mind, that they are not the disease, but the effects of a concealed cause, which may develope itself in any part of the system; and that, while the relief of one organ is sought by depletion, additional vigour may be given to the latent evil, so as to render it more ready to develope itself in some other part. When purulent deposits occur, the sudden congestions, which indicate their commencement, are not accompanied by any reparative actions, and the lymph, which is effused in the subsequent stages of their formation, is not so disposed as to circumscribe and limit the inflammation; there is, therefore, no natural process by means of which such collections of fluid can be evacuated; hence, when situated near the surface, they should be opened as soon as they are detected. It will sometimes happen, that, after the symptoms of secondary inflammation of internal organs have commenced, an abscess will present itself near the surface of the body, and relief will be afforded to the part first affected; at other times, an obstinate and violent diarrhœa will precede

[1] Brodie (Sir B. C.) Medical Gazette, vol. xxxvii, p. 642.

recovery. Although the mode of treatment adopted may have little influence either in bringing on, or checking, such salutary actions, it is important to watch their occurrence, and perhaps still more important, to be careful not to mistake a remedial action for a symptom of the disease.

"What treatment," says Cruveilhier, "shall we oppose to purulent infection? To this question experience is as yet dumb, while theory would seem to point to diffusible stimuli and tonics; to ammonia, quinine, and sudorifics; to hot external applications, to the vapour baths, to purgatives, and especially to emetics; to tartarized antimony, in large doses; to vesicatories, and to strong diuretics. Calomel has been extensively employed, to create a fluxion from the intestinal mucous membrane; but all these means have failed as signally in my hands as in those of others; yet, when the injection of putrid matters into the veins of living animals has been followed by abundant and very fetid evacuations, they have usually got well. It is a fundamental fact of pathology, that the intestinal canal is chiefly affected in diseases caused by miasmata. I am certain that diseases resulting from purulent infection would not be stamped with the seal of incurability, and that nature, seconded by art, would triumph in the majority of cases, if the pus, which is incessantly renewed, did not incessantly renew the sources of infection. As soon as constitutional symptoms manifest themselves, neither general nor local bleeding affords any advantage. A portion of the *materies morbi* is, no doubt, abstracted with the blood; but, as it is constantly being reproduced, the constitution is only deprived of the power it would otherwise have of resisting the disease."[1] In accordance with this remark, M. Gaspard found that animals, which recovered after the injection of a certain quantity of pus into their veins, often died when the experiment was repeated. The recovery was usually preceded by black, liquid, and extremely fetid evacuations, which often seemed to afford immediate relief. When such evacuations have taken place in other diseases, the gall-bladder has been found distended with black bile;[2] and it appears probable that the liver, in these cases, is one of the principal organs through which the cleansing of the system is attempted. If the supply of morbid matter to the system could be checked, mercurial action, in this stage of the disease, might be of service, by enabling the liver, or other organs, to throw off their vitiated secretions. When patients recover from purulent deposits (Cases III and XXVII), they are often left in a debilitated and languid state, in which ordinary tonics exercise little influence. The consequences of the disease appear to hang about the system, long after the cause which gave rise to it has ceased. The pulse will sometimes continue irritable, and there will be a tendency to derangement of the secretions of the skin, bowels, and other organs, accompanied by occasional slight attacks of fever. In this condition, an alterative course of mercury, combined with sarsaparilla, has been found beneficial. These remedies, by stimulating the activity of the excreting organs, may assist the constitution in throwing off the disease; and their mode of action may be the same as in other cases, where the system has been infected by an animal poison.

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[1] Op. cit p. 662.

[2] I have observed this condition after injuries of the spine which proved fatal, by causing inflammation of other parts.

APPENDIX OF CASES.

A. CASES OF SECONDARY INFLAMMATION, ACCOMPANIED BY MORTIFICATION OF THE SKIN.

Case I. William Ford, 33, an apparently healthy man, was seized with the symptom of strangulated hernia, at Harrow, December 28th. He was bled in both arms; but, as the hernia remained unreduced, he was sent to town, in a state of considerable restlessness and suffering. During his journey, the hernia returned of its own accord. He left quite relieved, and remained well till the 31st, when he had a rigor. On the 1st of February, there was a considerable degree of febrile excitement, and the anterior part of the left arm was red, swollen, and painful upon pressure. The tenderness and pain soon extended up the arm, in the course of the cephalic vein: the redness assumed the character of erysipelas. On the 3rd, he suffered from sickness, the matter vomited being green and acid. He had two severe rigors, followed by great heat of skin, and a quick full pulse. The orifice in the left arm discharged a thin serous fluid. On the 4th, he complained of stiffness in the right arm; also of being very feeble and faint. 5th. Wandered much during the night. The right arm was a good deal swollen about the end of the elbow-joint, and presented a patch of a bright red colour above the condyle. The pulse was weak and tremulous; motions of the hands was occasionally observed. He complained of pain in the ring-finger of the right hand, and in the ball of the right great toe. The skin, in both these situations, had assumed a red appearance. 6th. Was delirious during the greater part of the night; countenance expressive of much anxiety; pulse very weak; tongue covered by a brown dry fur; profuse perspiration; complained of severe pain in the calves of his legs. He died during the following night.

Post-mortem appearances. A small deposit of thick pus was found on the external surface of the left cephalic vein. The blood was coagulated in its cavity, its coats were thickened, and its lining membrane appeared very red. This redness could be traced, though in a less degree, through the whole extent of the vena innominata. On the right side, the cellular tissue, both above and below the elbow-joint, was greatly distended with serum. The cephalic vein of the right arm presented marks of having been inflamed; but not nearly to the same extent as upon the opposite side. The joints in which pain had been experienced during life, were distended with turbid pus; deposits of pus were also found in the anterior mediastinum, and between the œsophagus and trachea. A large gangrenous spot was observed in the skin of the calf of the right leg. The subjacent cellular tissue was much distended with serum.

Case II. Richard Mason had a small cancerous tumour removed from the lower lip. The operation was performed in the usual way, and the wound appeared to heal by the first intention; a small abscess, however, followed by some ulceration, subsequently appeared in the neighbourhood of the cicatrix. Nine days after the operation, he complained of sore throat and general uneasiness, and three days afterwards he was seized with rigors, followed by cold perspiration and coma.

Post-mortem appearances. A small deposit of matter was found,

situated beneath the fascia of the left thigh. The synovial membrane of the left knee was highly inflamed, and contained a large quantity of pus. On the right side, the skin of the whole inferior extremity presented a dark livid appearance, with the exception of that situated upon the fore part of the thigh. The same dark colour was observed in the muscles of the limb, which were infiltrated with blood and serum. The arteries and veins were discoloured, but in other respects presented nothing remarkable. It was ascertained, that, two years previously, this patient had suffered from diabetes; and upon examining the urine found in the bladder, it was found to contain sugar.

Case III. Jane Thornton, æt. 32, came under treatment on the 22nd of March. A week previously, her right ancle had become red and painful, and inflammation subsequently extended up the inner side of the leg. When first seen, she was evidently much out of health, although no one organ could be said to be particularly affected. On the 28th of March, she was attacked with severe rigors, and experienced pains in different parts of her limbs: the rigors were repeated for several days in succession. The inflammation of the leg now entirely disappeared, and she complained of pain in the right knee, which was slightly swollen. On the 31st, her bowels became much relaxed; there was great general depression, and much nervous agitation. Both knees were swollen. The general symptoms now became somewhat relieved; but on the 4th April, she was attacked with vomiting, which recurred frequently during the day, and was accompanied with great depression, and severe pain in the epigastrium. On the 5th, the sickness continued, apparently quite uninfluenced by any remedies. She passed considerable quantities of blood by stool: her countenance presented a dusky yellow hue: the pulse was excited, without power, and the sense of depression was greatly increased. On the 7th, the vomiting still continued, and she still passed blood by stool. Some spots of a dark purple colour now made their appearance upon her face. The hands both became slightly swollen; and upon the right one, some small, dark, livid spots, similar to those upon the face, made their appearance. She was much troubled with hiccough. On the 9th, the countenance was very anxious, the complexion more sallow: some more livid spots appeared upon the face and cheeks. The right hand and arm were swollen and painful: some fresh livid spots appeared, upon the knuckles. Complained much of faintness: had extreme debility with occasional hiccough: pulse extremely weak: the surface of the body was covered with cold perspiration. The sickness had entirely ceased, and there was no blood in the motions: the tongue was rather dry in the centre, but tolerably clean. 10th. She wandered slightly during the night, and vomited once: some blood again appeared in the motions; the right hand and arm were less swollen. 11th. The countenance was anxious, the pulse about 90, and intermitting irregularly. The vomiting recurred several times. The livid spots on the right hand had not increased in size, but appeared like distinct small black superficial sloughs of the skin; these all scabbed off, without suppuration. 12th. The pain and swelling of the arm had nearly subsided. The bowels acted very freely with the aid of medicine, and she expressed herself much relieved. From this time the patient slowly but gradually improved, with one or two slight intermissions, till the beginning of

May, when she again complained of pain at the inner part of the right arm, above the elbow. Some hardness could here be felt in the course of the basilic vein. Some small collections of matter were now deposited upon the back of the right hand, resembling, in some respects, the eruption of confluent small-pox. On May 11th, she had regained much of her strength, but still felt some pain in the elbow upon motion. She also complained of the joints of one of her fingers. She now left London for change of air.

The following Table is formed of Cases taken consecutively during One Year.

Heads of Cases.	Period of secondary inflammation.	Post-mortem appearances.
Case iv. Elizth. Mackintosh, æt. 25. Inflamed bursa patellæ; erysipelatous inflammation in the neighbourhood of the right axilla; sudden suppression of the catamenia; rigor; peritonitis; tongue covered with yellowish white coating; sickness; "catching pains" in the epigastric region.	A few days after the appearance of the erysipelatous inflammation; three days before death.	Dark-coloured serum, mixed with shreds of recently effused lymph, in the cavity of the left pleura; large quantities of sero-purulent fluid, with recently effused lymph, in the peritoneal cavity.
Case v. James Stevens, æt. 46. Punctured wound of the finger whilst opening a rabbit; diffuse cellular inflammation of the right arm; spasmodic and "catching pains", principally referred to the epigastrium; expectoration of bloody fluid.	Twenty-seven days after the injury; about seven days before death.	Bloody fluid in the cavity of the left pleura; pus in the left elbow-joint.
Case vi. William Collins, æt. 36. Bruise of the patella, caused by the wheel of a carriage; apparent recovery; erysipelatous redness over the left knee; rigor; rapid pulse; hot skin, followed by perspirations, pains in the head, restlessness, delirium.	Twenty days after the accident; three days before his death.	Cavity of the knee-joint containing a quantity of thick grumous fluid, apparently a mixture of blood and synovia; fibrous degeneration of a portion of the cartilage of the patella; turbid serum in the sub-arachnoid cellular tissue; bloody puncta in the brain, larger and more numerous than natural; posterior part of both lungs gorged with blood.
Case vii. Maria Martin, æt. 39. Caries and necrosis of the tibia, with large ulcer of the leg.	Several months after the occurrence of caries of the tibia; a few days before death.	The skin of the upper part of the leg and the whole of the thigh of a mottled appearance, caused by extensive dark patches of incipient gangrene; the cellular tissue of the limb infiltrated with lymph and pus.
Case viii. George Mason, æt. 42. Compound comminuted fracture of the metacarpal bones; inflammation of the absorbents; erysipelatous redness of the skin; secondary abscess in the affected arm; rigidity of the muscles of the tongue; trismus; universal affection of the muscles.	Nine days after the injury; twenty-two days before death.	Increased degree of congestion, both in the grey and white substance of the brain; substance of the pons Varolii and of the medulla oblongata of a pinkish colour, and presenting irregular streaks of increased vascularity; spleen soft, and somewhat congested.

Heads of Cases.	Period of secondary inflammation.	Post-mortem appearances.
Case ix. Sarah Leg, æt. 50. Necrosis of a portion of the tibia, accompanied by a large foul ulcer.	A few days before death.	Effusion of serum and lymph in the cellular tissue, which surrounds the pharynx and œsophagus; inflammation and ulceration of the mucous membrane of the larynx; slight inflammation of the lungs; the spleen of a greyish red colour, more solid and more easily lacerated than natural.
Case x. Elizabeth Moleno, æt. 42. Strangulated femoral hernia of the left side; operation; erysipelatous blush around the wound upon the third day, followed by sickness, cold perspiration, and delirium; several dark patches upon the skin of the right leg.	Eight days after the operation; four days before death.	The lining membrane of the right internal saphenic vein of a dark livid colour throughout, the cavity of the vessel filled with a large quantity of coagulated blood mixed with puriform fluid; pus in the common iliac vein; effusion of serum around the veins of the leg; liver large and congested; mottled degeneration of both kidneys.
Case xi. Jane Cox, æt. 60. Scalp wound; erysipelas of the head and face; transverse fracture of the external malleolus, followed by suppuration of the ankle-joint.	A short time before her death.	Mortification of the skin of the lower part of the leg, ankle, and foot; slight extravasation of blood into the arachnoid cavity, and into the substance of the brain; kidneys coarse in structure, and remarkably soft.
Case xii. Bartholomew Sullivan, æt. 27. Lacerated and contused wound of the leg, followed by diffuse cellular inflammation, and inflammation of the absorbents; delirium; a separate large patch of mortification, surrounded by bright red congestion, appeared in the right groin the day before his death.	Five days after the accident; eight days before his death.	Mortification of the skin and cellular tissue of the right leg; the veins of the limb healthy; spleen of a pale colour, and very soft.
Case xiii. George Foscutt, æt. 24. Fracture of the femur into the knee-joint; rigors; erysipelas of the limb, ill defined and very slow in its progress; coma; abscesses in the leg and thigh; mortification of the skin on the dorsum of the foot, and over the left hip.	Six days after the accident; twenty-two days before his death; pain in the chest the day before his death.	Hepatization of both lungs, with secondary abscesses in the left one; kidneys soft and coarse in texture, the left presenting a small deposit of apparently tubercular matter; spleen large, pale, and soft.
Case xiv. William Wright, æt. 30. Fracture of the patella; erratic erysipelas; diarrhœa; abscesses in the leg, and in the knee-joint.	Erysipelas appeared a month after the fracture of the patella, and about the same time before his death.	Effusion of lymph in the pleura; secondary abscesses in different stages of formation in both lungs, and deposit of lymph in one kidney.
Case xv. Henry Bateman, æt. 19. Fracture of the fibula; diffuse cellular inflammation of the leg; suppuration in the knee-joint; necrosis of a portion of the fibula.	Three months after the accident; three weeks before his death.	Recent effusion of lymph upon the pleura; incipient secondary abscess in both lungs; the tibia exposed, and its structure of a black colour, and soft.

Heads of Cases.	Period of secondary inflammation.	Post-mortem appearances.
CASE XVI. John Clark, æt. 45. Large scalp wound; rigor; followed by paralysis of one side; a portion of bone exposed, of a darkish green colour, and when removed of a putrid odour.	Nineteen days after the accident; three before death.	Effusion of lymph between the dura mater and the bone, and of pus and lymph between the cavity of the arachnoid; pus, mixed with blood, in the superior longitudinal sinus; deposit of lymph in the structure of the pia mater; recently effused lymph in the cavity of the left pleura; secondary abscesses of the left lung.
CASE XVII. Matthew Elmes, æt. 37. Injury of the wrist; diffuse cellular inflammation; abscesses in the cellular tissue, and in the wrist-joint; lower extremity of the radius denuded; pains in various parts of the body, especially the head and abdomen.	The tenth day after his admission into the hospital; four days before his death.	Secondary abscesses, in various stages of formation, in both lungs; suppuration between the different bones of the carpus; both kidneys large, coarse in texture, and flabby; the spleen soft, easily lacerated, and of a pale colour.
CASE XVIII. Mary Hopkins, æt. 19. Ulceration of the cartilages, followed by suppuration of the knee-joint; amputation; erratic erysipelas over various parts.	Erysipelas appeared a week after amputation; sixteen days before death.	Low inflammation of a portion of the left lung; dark-coloured patches of deposit in the spleen.
CASE XIX. John Wilkinson, æt. 56. Compound fracture of the right tibia; inflammation around the wound, with collections of matter; slight delirium; sickness.	Pain in the right side a week after his admission.	Turbid serum in the right pleural cavity; incipient secondary abscesses in both lungs; large cysts in the kidney.
CASE XX. James Bryant, æt. 20. Scalp wound, denuding the bone; puffiness of the scalp upon the eighteenth day; rigors, followed by profuse perspirations; restlessness; delirium; projection of the eyeballs.	Twenty-four days after the accident; five days before death.	Bone exposed to the extent of a shilling, of a yellow colour, and with a very dark diploë; effusion of lymph and pus between the dura mater and the bone, extending to the base of the skull, and through the sphenoidal fissures into the orbits; effusion of pus into the arachnoid cavity; incipient secondary abscesses in the lower lobe of the left lung: spleen large, and very soft, mottled; degeneration of both kidneys.
CASE XXI. James Williams, æt. 41. Fracture of the lower extremity of the left radius; diffuse cellular inflammation of the arm at the expiration of four weeks; abscesses in the limb, one of which communicated with the fracture; diarrhœa; vomiting; tongue dry and brown.	Ten weeks after the accident; one week before death.	Large cavity containing foul matter, in contact with the sacrum, which was exposed; abscesses between the bones of the left wrist and hand; spleen soft, congested, and grumous.
CASE XXII. John Munday, æt. 36. Prolapsus ani; hæmorrhoids; rigor; anxiety of countenance; great heat of skin; pulse 150.	The eighth day after the operation for hæmorrhoids; the fourth before death.	The mucous membrane of the whole of the large intestine of a very dark colour; congested patches of it thrown up into prominent folds; recently effused lymph upon the right pleura; secondary abscesses in both lungs.

Heads of Cases.	Period of secondary inflammation.	Post-mortem appearances.
Case xxiii. Esther Polley, æt. 50. Lacerated wound of the foot; separation of a small portion of the base of one of the metatarsal bones; pain in chest; rapid pulse; depression, with delirium.	The tenth day after the accident; the third before death.	A double fracture of the fifth metatarsal bone; inflammation of the right pleura; secondary abscesses in right lung.
Case xxiv. Henry Lacy, æt. 26. Scalp wound, exposing the bone; fracture of the skull; signs of nausea; pains in the head; "soreness of the stomach"; drowsiness and insensibility; paralysis of one side; muscular twitchings; portions of bone removed by the trephine, near the top of the head.	The eighteenth day after the accident; and a week before death.	Yellow matter in the diploë of the parietal bones, in the neighbourhood of the part where the trephine had been applied; effusion of lymph upon the surface of the dura mater; pus and lymph in the posterior half only of the longitudinal sinus; effusion of pus in the cavity of the arachnoid; some bloody serum in both pleural cavities; incipient secondary abscesses in the liver.
Case xxv. Thomas Meed, æt. 15. Injury of the leg; small suppurating sinus upon the outside of the limb; erysipelas; diarrhœa; coma.		Vessels on the surface of the brain congested; lateral ventricles distended with fluid; a thick layer of purulent lymph upon the arachnoid membrane at the base of the brain; some slight spots of ecchymosis on the anterior surface of both lungs.
Case xxvi. Thomas Daffey, æt. 42. Hæmorrhoids; operations; rigors; sickness; great abdominal pain; diarrhœa; hiccough. This patient had been salivated previous to the operation for the hæmorrhoids.	The tenth day after the operation; and ninth before death.	Incipient secondary abscesses in the right lung; liver studded, throughout its whole extent, by secondary abscesses; mucous membrane of the rectum of a dark greenish colour; effusion of pus and lymph into the hæmorrhoidal and inferior mesenteric veins; cavity of the left knee-joint distended with pus; spleen soft, pultaceous, and thickly-studded with dark-coloured blotches.

Case xxvii. George Burton, æt. 22, a stout navigator, was first seen September 18th, 1848. He had an enormous slough of the skin and cellular membrane, covering the lower part of the abdomen on the right side. He gave a most imperfect history of himself, and seemed frequently incapable of comprehending the questions which were put to him. The skin was hot and dry, the pulse 130. For several days, he remained in the same apathetic condition. The bowels were particularly obstinate, and the purgative medicines which were administered produced no effect whatever.

When the slough separated, the surface of the external oblique muscle was left as clean as if recently dissected. The skin was undermined for some extent, and no attempt was apparently being made to limit the progress of the disease, by the effusion of lymph. Fresh portions of cellular tissue consequently became affected, and the whole surface ultimately exposed was full six inches in diameter. *Sept.* 25th. Complained of some pain in the chest and upper part of the abdomen; has a constant short cough; perspires very freely. 26th. The pulse has

become weaker, but remains of the same frequency (130). It communicates a peculiar jerking sensation to the finger. 28th. Pulse 96, weaker; slight diarrhœa; he vomited several times during the day. 29th. Restless, with delirium. 30th. Passed another restless night, but became better in the course of the day; his appetite returned. *Aug. 5th.* His appetite again failed; complained of a sense of distension in the abdomen. 8th. An abscess was discovered at the lower and back part of the right leg; the skin over this presented various shades of yellow and brown, giving the appearance of having been extensively bruised. About two ounces of discoloured pus were evacuated, together with a considerable quantity of grumous blood. 10th. Has much improved since the last report; the wound discharges dark semi-coagulated blood. 13th. A second abscess now presented itself in the same leg, and the skin covering it presented the same discoloured appearance as in the first instance. When opened, it discharged dark-coloured semi-coagulated blood with the matter. He now rapidly improved in health, and at length perfectly recovered.

Case xxviii. Samuel Todd, æt. 58, fell from a wagon fifteen miles from town, and was brought up in an open cart, during a sharp frost. There was a compound fracture of the left leg. Two days afterwards, he suffered from cellular inflammation around the wound. On the 24th day, he had a slight rigor, and complained of slight stiffness in the right shoulder. He ate and drank well till within two days of his death, which took place on the thirty-fourth day.

Post-mortem appearances. Both lungs contained secondary abscesses, in various stages of formation. The left external iliac and common femoral veins were blocked up with firm coagula, and confined by these was a quantity of purulent-looking fluid; an adherent layer could, for some distance, be peeled off the internal surface of these vessels.

Case xxix. James Howard, æt. 33, had a small abscess in the dorsum of the right foot, which was followed by inflammation of the absorbents; abscesses subsequently formed in the right thigh and groin. Two months after the first appearance of the abscess on his foot, he was seized with rigors, vomiting, and profuse perspiration. He complained also of pain in the lower part of the left lung, and it was said that the respiratory murmur was deficient in this situation. He died on the 23rd day from the appearance of the symptoms of the secondary affection.

Post-mortem appearances. The skin and conjunctivæ were of a light yellow colour; there were incisions in the right groin. In the cavity of the right pleura, were some patches of recently effused lymph, of a yellowish colour. In the lower lobe of the right lung, were several patches of secondary deposit; these were found in different stages of their formation, and some of them were of considerable size; some of the pulmonary veins, in the neighbourhood of those which had suppurated, were found to contain a fluid resembling pus. On the left side was a small abscess, under the pleura costalis. The liver was healthy in structure, rather larger than usual. Kidneys healthy. The veins in the groin presented a healthy appearance.

Case xxx. A gentleman was operated upon for hæmorrhoidal tumours in the usual manner, and died shortly afterwards, with effusion of

bloody serum into one of the pleural cavities. The only peculiarity that could be detected in the appearance of the rectum was, that the blood was still fluid in one of the largest veins. This vein led directly to an ulcer produced by the operation; and, even at its extremity, it contained no appearance of coagulum.

B. CASES IN WHICH VITIATED FLUIDS WERE OBSERVED IN THE VEINS OF THE UTERUS AFTER CHILD-BIRTH.

Case xxxi.[1] On the second day after a natural labour, a woman had prolonged rigors, which were followed by abdominal pain and much perspiration. On the fourth day, she was affected with syncope and bilious vomiting, accompanied by extreme prostration. On the fifth day, the abdominal pain, which had subsided, re-appeared with agitation and delirium. On the sixth, she had cold sweats, irregular pulse, rapid breathing, and vomiting. She died on the following morning.

Post-mortem appearances. There was a small quantity of limpid serum in the cavity of the peritoneum. Some of the uterine veins were found to contain a turbid fluid. The heart was half filled with brown blood. The lungs were congested, and the other organs natural.

Case xxxii. A woman, twenty-two years of age, of a nervous temperament, miscarried at the expiration of the first month. She was almost immediately afterwards attacked by rigors and bilious vomiting, accompanied by pains in the loins and in the hypogastrium. On the following day, there was coma, with indications of extreme debility. On the third day, consciousness returned. There was difficult articulation, and moaning. The extremities became cold, the pulse imperceptible, and death occurred upon the same day.

Post-mortem appearances. The peritoneum was slightly injected, and contained a small quantity of reddish serum. The cervix uteri was covered with a layer of pus. Semi-transparent lymph was found in some of the uterine veins. The brain, and other organs, were found healthy.

Case xxxiii. A feeble girl, 21 years of age, was confined at the expiration of the eighth month. On the fourth day, there was shivering and prolonged fainting. The following morning, she had acute abdominal pain, fever, and diarrhœa. On the seventh day, the symptoms had all subsided, but on the eighth the abdominal pain returned, accompanied by syncope. She died two days afterwards.

Post-mortem appearances. The peritoneum was slightly injected, and contained about a pint of red-coloured serum. The uterus was large, white, and firm, its veins half filled with fluid blood; its lymphatics natural; its inner surface lined with a layer of fetid brown blood, but otherwise healthy; the cervix covered with a grey, thin exudation. The lungs, heart, brain, and other organs, were quite sound.

Case xxxiv.[2] Anne Biggs, æt. 39, confined March 18th, 1830, eighth child. On the evening of her confinement, her manner was much excited. On the 19th, she was incoherent, and complained of pain in the calf of the right leg, which was tender on pressure. The pulse being hard, she was bled to eight ounces. On the 28th, the leg was swollen and white; the pain in it much increased: towards evening the

[1] This, and the two following cases, are taken from Tonellé. The author is responsible for the accuracy of all the preceding cases.

[2] Dr. Ferguson.

calf of the limb became black, while, at the tendo-achillis, the skin was hot, tender, dry, and mottled. The bowels were much opened, the head giddy, the pulse quick and strong. She was again bled, to twenty-six ounces, and twelve leeches were applied to the temple. On the 21st, there was nausea, vomiting, and diarrhœa. On the 23rd, she complained much of the confusion in her head, the leg was tolerably easy, but the upper and inner part of the thigh was very tender. On the 24th, the diarrhœa continued, and there was increased weakness. A hard swelling, about half as large as an egg, appeared at the wrist, and one of the orifices made by venesection was black and painful. She died in the evening.

Post-mortem appearances. All the ventricles of the brain were dilated with serum, and there was a good deal of effusion into the arachnoid and pia mater. The viscera were perfectly healthy, except the heart and spleen: the latter was very large, and on pressing it, a large quantity of dirty red pulpy matter exuded. The lining membrane of the right auricle and ventricle, when washed, had a dark red hue. The femoral vein, just at the ingress of the saphæna, and the superficial vein in the back of the leg, had their coats much thickened, so as to cut like arteries. Their lining membrane was similar to that of the right cavity of the heart. When they were divided, purulent matter, mixed with thin light-coloured blood, escaped. The cellular tissue forming the sheath of the femoral vessels, and on the calf of the leg, shewed marks of recent inflammation; but there was no appearance of pus in these situations. None of the glands in the groin or ham were enlarged. The inferior vena cava appeared healthy.

C. CASES OF PURULENT DEPOSITS, CONNECTED WITH INFLAMMATION OF THE VEINS AFTER DELIVERY, RECORDED BY DR. ROBERT LEE IN THE MED.-CHIR. TRANSACTIONS.

Case xxxv. Mrs. Mayhew, æt. 33, was delivered on the 2nd March 1829. On the 5th, there was a discharge of blood from the uterus. From the 6th to the 20th, she made no complaint of uneasiness in any region of the body, though her strength rapidly declined. The countenance was of a dusky yellow hue. The heat of the surface slightly increased; the respiration hurried, particularly on bodily exertion, and the pulse above 130, and feeble; the tongue pale and glossy, with loss of appetite. The lochial discharge had a peculiarly offensive smell. She died upon the 28th of March.

Post-mortem appearances. When the uterus was laid open, there was found to be a portion of the placenta, about the size of a nutmeg, in a putrid state, adhering to its inner surface. The substance of the uterus, to the extent of an inch around this, was of a peculiarly dark colour, almost black, and as soft as a sponge. On cutting into it, about a teaspoonful of purulent matter escaped from the veins, and a small additional quantity was pressed out from them. . . On opening the capsular ligament of the right knee-joint, about six ounces of thin purulent matter escaped, and the cartilages of the femur and tibia were extensively eroded. There was no appearance of inflammation, however, on the exterior of the capsular ligament. The right wrist was swollen, and the cellular membrane around it was unusually vascular, and infiltrated with serum.

Case xxxvi. Mrs. Pope, æt. 40, was delivered, on the 26th of Oct.,

of her fourteenth child, and appeared to recover favourably until the 3rd of Nov., when she was suddenly attacked with a severe rigor. This was followed by intense head-ache, vomiting, general soreness of abdomen, and suppression of lochia. Nov. 6th. Great prostration of strength; laborious respiration, with pain at the bottom of the sternum, and frequent hacking cough; pulse 135, extremely feeble; skin hot and dry. . . Occasional retching and vomiting. Several hard, lumpy cords were found running up in the inside of the thigh, in the direction of the superficial veins. 7th. Delirium; general debility greatly increased; the surface of the body was covered with a yellow suffusion; the middle finger of the left hand was much swollen around the second joint, and the skin covering it was of a dusky red colour.

Case xxxvii. Mrs. Edwards, æt. 35, was suddenly attacked, three weeks after delivery, with pain in the calf of the right leg, and loss of power in the whole right inferior extremity. On the 5th day from the attack, a considerable swelling, without induration, had taken place from the ham to the foot, and great tenderness was experienced along the inner surface of the thigh to the groin. The extremity became universally swollen, painful, and deprived of all power of motion. The temperature along the inner surface of the limb increased; the integuments were pale and glistening, not pitting upon pressure. The femoral vein, from the groin to the middle of the thigh, was indurated, enlarged, and exquisitely sensible; pulse 80; tongue much loaded; thirst; bowels open. On the 23rd day from the attack, the disease was apparently declining. The femoral vein could no longer be felt, but there was still a sense of tenderness in its course down the thigh, and she experienced considerable uneasiness between the umbilicus and pubes, as well as in the loins. She now, for the first time, began to have rigors, accompanied by a quick pulse, loaded tongue, and thirst. From this period to the 31st day, the swelling of the limb and tenderness in the course of the femoral vessels subsided, but she experienced attacks of acute pain in the umbilical region, loins, and back, which assumed a regular intermittent form. Every afternoon there was a rigor of an hour's duration, followed by increased heat, and profuse perspiration: the skin was hot and dry; pulse 125; tongue brown and parched; bowels open. These febrile attacks gradually declined in severity, and she appeared to recover till the 43rd day, when she had a long and violent fit of cold shivering. The countenance now became expressive of great anxiety, and the pulse extremely weak and feeble. 45th day. Vomiting; pain upon the left side, increased upon taking a deep respiration. 46th day. Another severe and prolonged rigor; skin hot and dry; pulse 140; tongue brown and parched; diarrhœa; respiration hurried, with frequent cough; surface of body presenting a peculiar yellow tinge. The conjunctiva of the right eye now suddenly became of a deep red colour, and so much swollen, that the eyelids could not be closed. On the day following, the left eye also became red and swollen, the surface of the body was cold and clammy, pulse 140, extremely feeble, with great debility, and repeated attacks of vomiting. From this date, the patient lived nearly three weeks, but for the last fortnight the vision in both eyes was entirely destroyed.

Post-mortem appearances. The left pleural cavity contained upwards of two pints of a thin, purulent fluid. The inferior lobe of the left lung

was of a dark colour, and soft in texture. In its centre, about an ounce of thick cream-coloured pus was found deposited in its dark and softened texture. This was not contained in any cyst or membrane, but was infiltrated into the pulmonary tissue. The coats of the vena cava inferior were considerably thickened; its whole cavity was occupied by a coagulum, terminating above in a loose pointed extremity. The left common iliac vein was plugged up, by a continuation of the coagulum from the cava. The coagulum was continued beyond the entrance of the internal iliac, which it completely closed, and terminated in a pointed extremity about the middle of the external iliac. Neither the remainder of the vessel, nor the femoral vein, exhibited any morbid changes. The right common iliac vein was contracted to more than one-half its natural size; it was firm to the touch, of a greyish blue colour; to its internal coat adhered an adventitious membrane of the same colour, containing within it a firm coagulum. The internal iliac was rendered quite impervious by dense, dark-coloured bluish membranes; and, at its entrance into the common iliac, it was converted into a solid cord. The contracted external iliac contained within it a soft yellowish coagulum; its coats were three or four times their natural thickness, and lined with dark-coloured membranous layers. The right femoral vein, from Poupart's ligament to the middle of the thigh, was diminished in size, and almost inseparable from the artery. Its tunics were thickened, and its interior coated with a dense membrane, surrounding a solid purple coagulum strongly adherent to it.

D. CASE, SHEWING THE PERIOD AT WHICH A COAGULUM MAY GIVE WAY IN A WOUNDED VESSEL.

Case xxxviii. George Haydon, ætat. 37, received a wound about half an inch in length over the right radial artery, on March 5th, 1848. The hæmorrhage was arrested by pressure. On the 12th, a small slough formed in the bottom of the wound, the edges of which were inflamed and painful. On the 14th, slight bleeding from the wound occurred, which at first was arrested by the application of cold; but in the evening it recurred in considerable quantity, and again was checked by cold and pressure; during the night, however, profuse hæmorrhage again took place, and was only stopped by the application of the tourniquet above the elbow. On the 15th, the radial artery was tied; but as this did not prevent the hæmorrhage from returning, when the tourniquet was relaxed, the original wound was enlarged. The opening in the radial artery was now with some difficulty discovered; it extended two-thirds round the circumference of the vessel, leaving one-third undivided.

E. CASES SHEWING THE ORGANISATION OF THE OUTER LAYER OF EXTRAVASATED BLOOD; REPORTED BY MR. HEWETT.

Case xxxix.[1] A middle-aged man received a severe injury of the chest; he lived eleven days after the accident, and during this time he never presented a single inflammatory symptom. The cavity of the left pleura was found completely filled with bloody fluid, and was subdivided into two compartments, by a portion of coloured fibrine, presenting a honeycombed appearance, which passed from the ribs to the lung. The lower compartment was itself subdivided into several others, by layers of

[1] Med.-Chir. Transactions, vol. xxviii.

coloured fibrine intersecting each other. Large portions of loosely coagulated blood were found in all the cavities; some of these clots were of a rusty colour, others approached nearer to the natural colour of the blood. The lung was compressed against the spine, and the whole surface of the pleural sac was coated by a false membrane, about two lines in thickness, formed by coagulated fibrine. The fibrine which lined the pleura pulmonalis and pleura diaphragmatica, presented on its inner surface a smooth and polished appearance, and in colour exactly resembled the yellowish fibrine found in the clots of the heart of this patient. So uniform was the coating, and so continuous was it throughout its whole extent, that it looked at first merely like thickened pleura; but this appearance was easily destroyed, by peeling off this adventitious membrane from the serous tissue, which there presented the same appearances as the pleura on the opposite side, with the exception of not being quite so smooth: there was neither thickening nor the slightest increase of vascularity in this pleura. A large rent, from which the hæmorrhage had proceeded was found in the substance of the lung.

Case xl. A man was attacked with diffuse cellular inflammation of the inferior extremity, which terminated in two days with extensive gangrene of the skin. In the superficial and common femoral veins were extensive coagula; these did not completely fill the veins, but slightly adhered at different points to their internal coats. These clots still retained, in some places, the colouring matter of the blood, whilst at others the colourless fibrine alone remained; in both veins, the clots were enveloped in a perfectly transparent, smooth, and polished membrane, presenting the appearance of a serous tissue. In the structure of these membranes were several distinct arborescent vessels, minutely injected;[1] some of these vessels were of sufficient size to allow of the blood being made, by gentle pressure, to circulate through them; but no communication could be traced between these vessels and the coats of the veins. The membranes were easily peeled off from the surface of the clots with which they were in contact. The interior coats of the veins presented their natural colour and polished surfaces, except at the points where the slight adhesions above-mentioned existed.

ON THE MECHANISM OF TEXTURAL NUTRITION.

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The first step in the actual process of nutrition, is the attraction of the homogeneous part of the blood by the tissues.[2] The blood being contained in the vessels, that part only which transudes through their walls into the parenchyma of the organs can contribute to nutrition. Hence, even though a large quantity of rich healthy blood be circulating through the vessels, the textures will be imperfectly nourished, unless sufficient

[1] Mr. Gray, the Curator of the Museum of St. George's Hospital, has recently shewed me the outer layer of an effusion of blood into the arachnoid cavity, injected from the middle meningeal artery.

[2] Valentin's Physiologie, Band 2, Sect. 2068. Mueller's Physiologie, p. 75.

exudation takes place; but nutrition will be restored, so soon as an adequate quantity of blood is made to pass through the walls of the vessels. An excessive exudation of serum into the parenchyma, no doubt, likewise impedes nutrition, by producing pressure on the textures, and thus impeding their attractive power. That this is probably the case, may be inferred from the following considerations: 1. The evolution and nutrition of organs is impeded by pressure from without; and the same effect is no doubt produced by pressure from within. 2. The textures become atrophied, whenever they are pressed on by an adjoining part which has had its bulk enlarged by inflammation or other causes. 3. Inorganic processes are retarded by pressure; thus, crystallization can only take place when sufficient space is afforded. The organic processes, then, consisting in a selection and attraction of similar parts, have the greater need of sufficient space.

The process of nutrition may then be supposed to be modified by all those forces, which cause an alteration in the quantity or quality of the blood effused into the parenchyma; or rather, by those influences which affect the transudation of the nutritive part of the blood through the coats of the vessels. The forces which modify the exudation of blood through the coats of the vessels are the following:—

1. *The Quantity of Blood Circulating in the Vessels.* The larger this quantity is, the more the vessels and their pores are distended, and more blood passes into the parenchyma, and *vice versâ*. If a fluid be driven through an elastic tube, the latter will be distended in proportion to the force applied.

2. *The Quantity of the Blood-Corpuscles.* Many blood-vessels (*vasa serosa*) are of smaller diameter than the blood-corpuscles; and hence must be distended when they pass through them. It is incorrect, and quite in contradiction to physical laws, to assert, with some physiologists, that the corpuscles are compressed and become elongated, in passing through these vessels. Being propelled by a *vis a tergo*, they must become broader, but never more slender. On pressing an elastic globe through an elastic tube, the former will not become thinner, but both will be distended. Hence, the more corpuscles there are in the blood, the more the vessels and their pores are distended.[1]

3. *The Energy of the Forces which Propel the Blood into the Small Vessels.* The capillaries and their pores are distended in direct proportion to the energy with which the blood is sent into them by the heart and large vessels. This may be demonstrated by forcing, with varied pressing power, a quantity of fluid through an elastic tube.

4. *The Temperature.* Within certain limits, a high temperature favours distension of the vessels, while a low one causes them to contract.[2]

We find, in the above principles, the explanation of many of the phenomena of health and disease.

I. The similarity between the symptoms of anæmia and those of hyperæmia, is evidently accounted for. In both diseases, nutrition is interrupted: in anæmia, by want of blood; in hyperæmia, by its super-

[1] Haas (Dr.) Ueber die Function der Blutkörperchen. Œsterreichischer Jahrbücher, Jan. 1848.

[2] Valentin's Physiologie. Band i, sect. 1086.

fluity, which produces pressure on the tissues, and impedes their power of selection and assimilation. In hyperæmia, the vessels are over-distended, and too much blood passes through their coats into the parenchyma.

II. We find an explanation of the general organic weakness, which is constantly observed in fevers. The heart being, in these diseases, too energetic in action, the vessels are over-distended, and an excessive quantity of blood is effused, producing effects similar to those which occur in hyperæmia.

III. The secretions, as the urine, sweat, and saliva, are impeded in fevers by this pressure of the blood on the textures. In spite of the presence of a large quantity of blood in their parenchyma, the organs are in want of material to furnish the secretions; for they require a large proportion of water, which is not afforded by the blood which passes through the pores of the vessels in a fibrinous state. Bruck's experiments shew, that a large proportion of water and soluble salts, and very little albumen, pass through small pores; but that through large pores, such as there are in fevers, there pass very little water and saline matters, and much albumen. The parenchyma of the secreting organs, then, contains very little water in fevers. This impediment to the secreting functions, causes the retention in the blood of a large quantity of urea, saline matter, etc.; but after the fever had subsided, when the action of the heart has diminished, and the vessels are less distended, the quantity of blood is not only diminished, but becomes more watery: the secreting organs are stimulated to action by the matters which have been retained, and the blood is also more able to remove them. The urea and salts increase in the urine, producing a sediment, the appearance of which denotes a *crisis*.

IV. A diminution in the quantity of blood is the cause of the summer sleep of the amphibia. Berthold and Davy found the temperature of these animals always lower than that of the atmosphere: this is produced by the evaporation of water from their bodies increasing with the temperature. Hence, in a high temperature, the quantity of blood in these animals is much diminished by their losing a large quantity of water; and, in circulating through the vessels, it does not distend them sufficiently to allow the nutritive part to exude. Nutrition, then, being partially suspended, the animals fall into a lethargic state. This explanation is an accordance with the fact, that the amphibia creep into a hiding place in dry, and awake in wet weather. They are not awaked by being carried into a cold room, but by being immersed in water.

V. A similar explanation will account for the fact, that animals are unable to live longer than twenty days on dry food, without any fluid, while they can exist for fifty days when supplied with water alone, but in sufficient quantity. As long as the animals get no fluid, the blood loses water daily in the urine, saliva, sweat, and breath. This loss can never be repaired by dry food, for the stomach cannot digest a sufficient quantity. The blood, thus reduced in quantity, passes through the vessels without being able to distend them, and afford nutritive material, as in the summer-sleep of amphibia. The want of water also causes a thickening of the blood, which co-operates with its want of power to distend the vessels. But if the animals are supplied with a sufficient

quantity of water, without any food, they survive for a longer time. Although water contains no nutritive material, and cannot be transformed into nervous or muscular tissue, it nevertheless indirectly contributes to nutrition, by increasing the quantity of the blood. The vessels are sufficiently distended, and the blood passes into the parenchyma, and supports life longer, in spite of its possessing very low nutritive power.

VI. The winter-sleep of animals has its origin, like the summer-sleep, in an interruption to nutrition. The summer-sleep is caused by the loss of water; the winter-sleep by the diminished activity of the heart's action, consequent on the influence of cold. It has been found that in hybernating animals, at the commencement of the winter-sleep, the pulsations of the heart subsided from 200 to 50 in a minute. The heart being thus weakened, is not able to propel the blood with sufficient force to distend the vessels, which are much more contracted in cold weather. In such circumstances, no blood passes through the pores into the parenchyma, nutrition is interrupted, and the animals fall into a state of asphyxia, losing the power of feeling and perceiving. The reason why some animals only are subject to hybernation, is to be found in their various degrees of sensibility. Those whose heart is unable to resist the weakening influence of cold, are seized on by winter-sleep. This explanation is confirmed by the fact, that we observe young animals asphyxiated by a degree of cold, which they would bear with impunity if full-grown. Legallois observed this in rabbits, six or eight weeks old.

The cold-blooded animals are also very soon overpowered by cold; but this is dependent on two causes. Not only are they more susceptible of the influence of cold, but their small quantity of blood acts at a disadvantage. The quantity of blood would be sufficient, if the heart acted with sufficient energy: but the heart's action failing, the blood merely circulates in the vessels, without being able to pass through their coats.

VII. The diminished activity of the heart, and the contraction of the vessels, in cold weather, explains why we are compelled to take a larger quantity of food in winter, or when living in a cold climate. We endeavour to supply the want of one force which contributes to nutrition, by increasing others—to make up for the insufficient action of the heart by increasing the quantity of blood. If a fluid be pressed through an elastic tube, its walls will be less distended as the force is diminished, but more distended if the quantity of fluid be increased. If the quantity of fluid be increased in the same proportion as the propelling force is decreased, the distension of the vessels remains the same. The degree in which cold impedes nutrition, may be observed in the inhabitants of the frigid zones. They are stinted in growth; their bodies are short, their muscles thin, their senses obtuse, their mental faculties very weak, and the sexual instinct, the catamenial flow, and the fecundity, are much less than in other people. The same quantity of blood, which is sufficient for nutrition in a warm climate, is not so in a cold one. In the latter also, the heart is less active, and the vessels more contracted. For effecting adequate nutrition, a certain quantity of blood must pass into the parenchyma; and if the heart cannot act with sufficient energy to propel sufficient blood to dis-

tend the vessels, the absolute quantity of blood must be increased: otherwise a general stinting of growth results.

As the blood is the carrier of animal heat, we encourage, by increasing its quantity, and especially its penetration through the walls of the vessels, not only the nutrition of the tissues, but also the sensation of external warmth. We possess more blood in winter than in summer, and are hence more disposed to inflammation in the former season. We more easily, and for the same reason, bear a high temperature in the winter than in the summer. Warmth excites the heart's action, and promotes distension of the vessels: and if these at the same time contain much blood, congestions and inflammations are liable to occur.

The opinion of Liebig, that we are obliged to eat more in winter than in summer, because we inspire more oxygen, is not adequate to explain the facts above referred to: 1. According to Liebig, we possess in summer more blood than in winter, in which latter season the oxygen consumes more of the blood. If it were so, the tendency to inflammation ought to be greater in summer than in winter. 2. It ought not to be easier to bear a high temperature in summer than in winter. 3. Liebig's view does not explain why the amphibia and young animals become more easily asphyxiated in cold weather. The oxygen cannot have consumed a sufficient quantity in such a short time. 4. If an organ be subjected to the influence of cold, it loses sensation, as if deprived of blood.

VIII. The same instinct which compels us to take more food in winter, also invites us in the same season to make use of spirits. These, by exciting the heart to more frequent and energetic contraction, directly oppose the influence of cold, which weakens the heart, and prevents it from contracting with energy. By increasing the activity of the heart's action, spirits cause the greater distension of the vessels, and thus contribute to the nutrition of the organs. But, though to a certain extent equivalents to food, they never contribute directly to textural nutrition.

The protection which spirits afford against cold, is produced by the diffusion of animal heat by means of the effusion of blood into the parenchyma. Liebig explains this phenomenon, by the evolution of warmth from the combustion of spirits by the oxygen: but this opinion is liable to the following objections: 1. If the increase of animal heat by the use of spirits were dependent on this chemical action, the same quantity of spirits should produce the same amount of heat in all persons. But experience shows that this is not the case. Individuals, who are not accustomed to spirits, feel very warm, and even perspire, on taking a small quantity, while those who are addicted to their use, feel no effect from the same quantity. This agrees entirely with the statement above given,—that the effect produced by spirits is the consequence of their stimulating action on the heart: 2. Spirits are never burnt at such a temperature as is generally found in animals: 3. They are expired generally by the lungs, and not therefore burnt: 4. Fat is likewise burnt as by the oxygen; and yet we do not feel warmer after making use of it.

In the preceding theory, we find the explanation of the fact that

drunkards live on a small quantity of food. A small quantity of blood affords as much nutrition to them, as a larger quantity to other persons; for, in consequence of their taking spirits, the heart propels this small quantity of blood into the small vessels with such energy, that they are as much distended by it, as by more blood, with the normal activity of the heart. After having abstained from spirits for some hours, the drunkard feels very weak, and is not better till he has again taken liquor. He does not feel strengthened by taking food, as other individuals do. The reason of this is his general anæmia. By the use of spirits, the heart is caused to propel the blood forcibly, so as to distend the vessels, and the tissues are nourished. But the stimulus being removed, the activity of the heart subsides to its normal standard; the blood in the parenchyma is partly consumed by the tissues, partly absorbed by the lymphatic vessels. As the normal activity of the heart is insufficient to propel the small quantity of blood, the tissues are soon in want of food: hence the individual feels weak. But the simple use of food cannot strengthen him, because the quantity of blood cannot be restored with sufficient rapidity, as has been explained in my observations on the 'starving' of animals by the use of dry food. The drinking of water or other fluids is more effectual than taking food. The quantity of blood is increased; and the vessels and their pores being distended, nutritive material is more exuded into the parenchyma. In this way we may explain the cure of delirium tremens by drinking a large quantity of water. The want of appetite in drunkards is a natural consequence of the chronic inflammation of the stomach.

IX. In the same manner as spirits, warmth supports animal life. Animals partially starved, and already insensible, can be roused by artificial warmth. After ten minutes, the animal rises up, takes food, passes fæces and urine; and is, during the application of warmth, lively and merry. Warmth excites the heart, and distends the vessels: so that the blood, in spite of being reduced by fasting to a very small quantity, passes through the walls of the vessels more readily than before heat was applied. In this way the tissues obtain nutritive material; and the organs again recover their activity.

X. But animals die sooner after being subjected to artificial warmth, than when left insensible. This is to be explained by the same remarks as I have made in speaking of summer-sleep, and of the starving of animals when restricted to the use of dry food. In all these circumstances, the animals die from the want of blood in the parenchyma, produced by the loss of water. For, when awaked, they part with a large quantity of water in the urine, sweat, and breath; all which secretions are, like the nutritive material, furnished by the blood. The blood is thus much more diminished, than if the animals had been left in their state of asphyxia. Chossat asserted, that pigeons, which were undergoing starvation, lost twice as much weight when roused by artificial warmth, as when left quiet.[1] This is more the effect of secretion, than of the process of nutrition.

XI. In the principles which I have laid down, we find an explanation of the changes which the blood undergoes under various circum-

[1] Chossat. Récherches sur l'Inanition, p. 121.

stances. There can be no doubt, that any impediment to the process of nutrition must produce an alteration in the blood in the vessels; for those materials, which ought to be applied to nutrition, and transformed into different textures, remain in the blood. It being established, that the quantity of blood in the vessels, the number of blood corpuscles, the energy with which the propulsive agents in the circulation act, and the amount of temperature, produce modifications of the nutritive process, it is equally probable that they tend to alter the blood in the vessels.

In order to show what parts of the blood increase with the augmentation, and decrease with the diminution of nutrition, we must show what materials are subservient to this process. These are, besides some salts, fibrin and albumen. The corpuscles, being unable to pass through the walls of the vessels, cannot be considered as affected by the increase or diminution of nutrition.

The albumen and fibrin, though both subservient to nutrition, are destined for distinct purposes. The fibrin nourishes the tissues; but the albumen is transformed into fibrin and corpuscles. That the blood-corpuscles are formed from albumen, is proved by considering that they must be formed *in* the vessels, as they cannot pass through their pores; and as they are similar in composition to albumen, they are without doubt formed of it. That the fibrin is formed from albumen, can be demonstrated by the following facts: 1. The chyle contains more albumen and less fibrin, than the blood; consequently, a part of the albumen must have been transformed into fibrin. 2. The chyle, immediately after being absorbed by the lacteal vessels from the intestines, contains more albumen, and less fibrin, than that which has passed through the mesenteric glands. 3. Lymph contains much more fibrin, and less albumen, than blood-serum. But as the lymph is formed in the parenchyma of the organs from the blood-serum, which contains but little fibrin, the fibrin in it must be formed from albumen. 4. The arterial blood contains more fibrin, and less albumen than the blood in the veins; and this can only result from the transformation of the latter material into the former.

The albumen is therefore not only consumed for the purposes of nutrition, but is in a great measure transformed into fibrin and blood corpuscles. Hence any increase or decrease in the quantity of albumen is not only dependent upon the various degrees of activity of the nutritive process, but also on the extent to which it is transformed into fibrin and blood-corpuscles. If this action be impeded, the albumen must, if it be restored by food, increase in quantity, in spite of the apparent performance of textural nutrition.

Fibrin differs from albumen, in its mode of reparation. Albumen is only restored by food; and if none be taken, the albumen is not renewed. But fibrin, being formed from albumen, is restored even if no food be taken. It is nevertheless to be remembered, that the chyle also contributes a share to the formation of fibrin.

We are now able to point out some laws, which regulate the increase or diminution of the albumen and fibrin.

The albumen increases: 1. When food is taken as before, if either the nutrition of the textures, or the formation of blood-corpuscles or of

fibrin be impeded. In consequence of this, the albumen increases: (*a*) In chlorosis, where the formation of blood-corpuscles is impeded by the want of iron, or from some other cause. But if less food be taken than before, the albumen cannot be increased. (*b*) In many toxæmic diseases, as typhus, intermittent fever, bilious fever, &c., the poisons of these diseases in general impede the formation of fibrin:[1] and if the attack takes place on the same day on which food has been taken, the albumen will be restored by the chyle, and must increase. But if an animal be seized after fasting for some days, or if the blood be drawn three or four days after the toxæmic influence have first acted, we shall not find an increase of the albumen. The influence of food accounts for the albumen being sometimes in excess in chlorosis, and in toxæmic diseases, and sometimes in defect. 2. If, while the nutrition of the textures, and the formation of corpuscles and fibrin, are performed as before, more food is taken. In consequence of this, the albumen is increased in plethora.

The fibrin increases: 1. If, while it is being formed as before, nutrition is impeded. In consequence of this, it increases: (*a*) In all inflammatory fevers, where nutrition is impeded by the violence of the circulation, but where no cause operates to retard the formation of fibrin, which is still formed from albumen, even though very little food be taken. (*b*) After bleeding, when nutrition is impeded by the blood not being in sufficient quantity to distend the vessels. This increase is only relative, in proportion to the other parts of the blood; the loss of all parts has been equal, but the fibrin is soonest restored. The blood-corpuscles require time for renewal, and the albumen can only be supplied by food. (*c*) In abstinence, where the albumen is not restored by food, but the fibrin continues to be formed from albumen, the same phenomenon takes place as after bleeding. (*d*) In all diseases in which the blood-corpuscles are diminished, the vessels are not distended sufficiently to allow the fibrin to pass into the parenchyma of the various organs. This is the case in chlorosis, scirrhus, morbus Brightii, the latter months of pregnancy, and tuberculosis. Under all these circumstances, an access of fever determines an increase in the quantity of fibrin. 2. If, when the formation of fibrin continues to be performed as before, a large quantity of fibrinous food be taken. This is the result of an animal diet; for in this case, the chyle contains much more fibrin than when a mixed diet is used.

The albumen decreases, whenever its expenditure is greater than its supply by the food. This takes place in fasting; where, though but little albumen passes through the coats of the vessels, it is consumed in the formation of fibrin and corpuscles.

The fibrin decreases only if its formation be impeded. This takes place in various narcotisations and poison-diseases, as poisoning by opium, hydrocyanic acid, typhus, miasma, etc.

It is here the place to refer to the causes of the increase or decrease of the blood-corpuscles in different diseases. We have first to point out how they are *spoiled*, in the healthy state. On this point, we have

[1] It does not follow that every poison impedes the formation of fibrin; for all poisons are not alike.

only hypothetical ideas: but as it is established, that the small vessels are distended by the passage of the corpuscles, an amount of friction must be exercised, which must tend to render the corpuscles unfit for use. It follows, that the oftener the corpuscles circulate through the vessels, the more they are spoiled: but this rule is not without exceptions. It may happen, that the corpuscles are often propelled through the vessels without being injured; this occurs if the walls of the vessels are soft, and capable of yielding. In this case, the corpuscles must increase, if their formation be not impeded. They must decrease, if their formation be impeded, or the vessels be resistant, and the heart act more frequently. Hence they decrease in fevers, because the contractions of the heart are more frequent. They increase in typhus and other toxæmic diseases, where the vessels are yielding, which is denoted by the softness of the pulse; for as the vessels do not resist the pressure of the finger from without, they cannot be supposed to oppose the pressure from within. This is the result of the action of the poison. If, however, the formation of the corpuscles be impeded, they decrease, notwithstanding the softness of the vessels. This sometimes happens in chlorosis.

(To be continued.)

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In our last number, we took a dispassionate review of the condition of the Medical Profession in the present day, as contrasted with the position which it occupied in the seventeenth century. Our object was most especially to show, that the science of medicine, which was formerly understood and practised only by a few, was now extensively diffused over the empire ; and that this result was in great measure attributable to the improved education of the General Practitioners, who, while they form a very important and necessary branch of the profession in the large cities, are the only medical attendants of the inhabitants of the provincial towns and villages. We also showed, that while a subdivision of labour in the medical profession was appreciated and rewarded by the rich and powerful, the middling classes and the poor were yet necessarily dependent, for relief from the complicated ailments which afflict human nature, upon the skill, the humanity, and the honour of those members of the profession who combine in their education such an amount of knowledge, as renders them efficient advisers in all the branches of the healing art. We therefore came to the conclusion, that while it was just that the highest honours and emoluments should be conferred upon those specially eminent in medicine, surgery, or midwifery, it was yet far more essential, that the legislature should provide for the efficient education and examination of the great mass of the profession—the general practitioners—to whom the lives and the health of at least nine-tenths of the community are entrusted.

We propose, on the present occasion, to consider the system or systems of education which have been devised, and are now in operation, for the qualification of the general practitioner. We purposely omit, for the present, the education of the pure physician, and of the pure surgeon ; and for the following reasons. The success of practice in either of these special departments, must depend upon the talents and ability of the practitioner, who can rise in the social scale only by the favour and countenance of his professional brethren, who are generally competent to form a pretty just estimate of his claims to their confidence ; and who do not, as a rule, raise inferior men to distinction. Hence, a man who professes to practise what are called the higher branches of the profession, will of necessity soon find his level, and will rise or fall according to his genius or his energy. However much, therefore, we applaud the efforts made to improve the education of the pure physician, or pure surgeon, and to render their superiority real instead of artificial, we nevertheless think it far less imperative to insist upon this, though a much needed reform. The general practitioner exercises his vocation very often among, and is dependent upon, the ignorant and the illiterate, who, being unable to form any estimate of intellectual powers and educational status, cannot form sound opinions as to the acquirements of those whom they are by necessity obliged to consult. The wealthy denizen of the great city can deliberate whether he shall trust his own life, or the life of those who are dear to him, to Sir John This, or Dr. That ; but the pauper, the prisoner, the lunatic, the soldier, the sailor, the artizan, and the small tradesman, have

no such power of selection, and they are completely at the mercy of those who undertake to provide for them efficient medical relief. Hence we maintain, that the education and testing of the general practitioners of medicine, ought to be an object of paramount solicitude with the Parliamentary representatives of a generous and enlightened nation.

The University of London is the first body which claims our consideration, in connexion with Medical Education. Its curriculum is comprehensive and carefully arranged; and the examinations are so distributed over a number of years, as to lead the mind of the student from step to step in science, until the time of obtaining his diploma. This plan of subdividing the examinations, while it fixes the mind to study for a lengthened period, obviates that miserable and inefficient plan by which many are enabled, on the eve of an examination, to force so much knowledge into their heads as is just sufficient to gain their certificate or license, but is far from being adequate to make them safe and useful practitioners in after life. One most admirable feature in the curriculum, is the establishment of the Matriculation Examination, which must be passed by every pupil *at the commencement of his studies*, whether he intend to graduate in Arts, Law, or Medicine. On a former occasion, we ridiculed the plan adopted by the Royal College of Surgeons of England, in demanding a knowledge of Latin, Greek, French, German, mathematics, and much more, *at the termination of the pupil's career;* but we now express our unqualified approbation of the practice pursued at the University of London, of demanding such knowledge *at the beginning*. We beg also to offer our most emphatic and decided opinion, that no person whatever should be allowed to *commence* the study of medicine, unless he have received a good preliminary education, *and have proved his proficiency before some competent authority*. The study of the classical and of the modern languages refines the taste and enlarges the boundaries of thought; the pursuit of the mathematics, or of logic, strengthens the reasoning powers and restrains the vagaries of fancy: the cultivation of chemistry and natural history makes us acquainted with the structure and peculiarities of the objects composing the material world, and gives us an insight into the boundless magnificence of nature: in fine, a liberal education elevates the moral character, and prevents its possessor from being guilty of those many meannesses, peculiar to narrow and ignorant minds.

The Matriculation Examination of the University of London lasts nearly a week, and includes questions in classics, mathematics, and natural philosophy. On the first day the student is examined in mathematics (comprehending common arithmetic and algebra), and in English history. On the second day, the subjects are Greek classics, and history, and chemistry. On the third day, the student is required to demonstrate some of the propositions contained in the first book of Euclid, and to answer questions in natural philosophy; and the last day of the written examination is devoted to Roman classics and history, and the structure and origin of the English language.

In the case of medical students, two years must elapse after their matriculation, before they can present themselves for their first medical examination. Before the time appointed for the examination, they must bring evidence of having attended certain lectures, and of having dissected for nine months; *of having attended a course of Practical Chemistry, and having attended to Practical Pharmacy during a sufficient length of time to enable them to acquire a practical knowledge of the preparation of medicines.*

The candidates are examined in Anatomy, Physiology, Chemistry, Botany, Materia Medica and Pharmacy; and the examination lasts more than a week.

The second examination for the medical diploma cannot be passed until upwards of two years have elapsed since passing the first, and the student must bring proof of having attended certain other courses of lectures; of having, subsequently to his first examination, dissected for six months; of having conducted at least six labours; of having attended to hospital practice, and clinical lectures on medicine and surgery; of having, subsequently

to the completion of his attendance on surgical and hospital practice, attended to practical medicine in an infirmary or dispensary for six months ; and of possessing a good moral character. The examination is upon Physiology and Comparative Anatomy, General Pathology, Therapeutics, Hygiene, Surgery, Medicine, Midwifery, and Forensic Medicine. When the student has passed this examination, he becomes a Bachelor of Medicine.

The last examination is for the diploma of Doctor of Medicine : and on this occasion, the candidates are examined in Logic and Moral Philosophy, and in Medicine. They are also required to write a commentary on a case in Medicine, Surgery, or Midwifery.

To the whole of this extensive course of study, candidates for the degree[1] of Doctor of Medicine of the University of London are now obliged to submit. While we consider the plan of education here proposed as one of the very best schemes of medical examination hitherto devised, we are by no means so Utopian in our views as to advocate the propriety or possibility of rendering such a system compulsory upon all medical students ; for the intellectual calibre, and the pecuniary means of the majority would, we know, be unequal to the task. The University, indeed, appears to be extremely liberal in allowing the student to pick up his knowledge where and how he can ; but the long duration, the variety, and the stringency of the examinations, and the notorious rejection of many candidates of very fair, if not of striking abilities, naturally deter a great multitude of students from entering upon a career, which will certainly involve them in a great expense of time and money, and may perhaps at last terminate in disappointment. The candidates for the London University degrees and honours are generally the most advanced, and the most ambitious students.

From a careful examination of the proceedings of the University from year to year, and a diligent perusal of the questions, both general and professional, proposed to the candidates, it is, we think, evident that the governing body do not wish to open the doors of the University to the mass of the profession, but rather to propose a species of intellectual struggle to the most accomplished students. We may also remark, that the obstacles thrown in the way of obtaining a degree by those who are in practice, may almost be styled vexatious ; thus the examinations are held only once a year, although the examiners are very handsomely paid for their attendance, and might, with very little inconvenience, hold them more frequently ; in the case of candidates, therefore, who are unable to attend upon any one of the numerous specified days or hours, their examination is deferred for a whole year, and no plea, even of illness, however well authenticated, is of any avail ; added to which, no distinction whatever is drawn, in the questions proposed, between the student just fresh from the schools (of which, too, many of the Examiners are teachers), and the practitioner of many years' standing in the profession, who may perhaps undergo the mortification of being snubbed for not being able to give the generic distinctions of a carex, or the minute anatomy of the muscles of the back. But we have perhaps no right to blame the authorities of the University for upholding the character of their diploma, and upon principles of strict justice their proceedings may perhaps be defended. With our best wishes for the continued and increased prosperity of this great national institution, we proceed to other matters.

A comparison has been instituted between the curriculum of the University of London and that of the Apothecaries' Society ; but the comparison is obviously unfair and uncalled for. The University grants its degrees to the most highly educated ; the Society of Apothecaries gives its license to those who possess a competent amount of knowledge ; the first educates *the few*, the second educates *the masses*. Many of those who pass the examination at

[1] Those who commenced their medical studies previous to 1839, are exempted from the Matriculation Examination, and can pass the Medical Examination within a shorter period.

Apothecaries' Hall, would probably be rejected at the University ; and in truth, many may fairly be pronounced competent to practise medicine with safety to the community who may be incompetent to grapple with those higher branches of science, an acquaintance with which is demanded by the University.

We have so lately considered the circumstances under which the Court of Examiners of the London Society of Apothecaries became empowered to direct the education and conduct the examination of the general practitioners of England and Wales, that it is unnecessary again to advert to that subject. We now intend to show the manner in which they have carried out the provisions of the Act of Parliament of 1815 ; and we believe that it is impossible to deny that their efforts have been attended with signal success, although every species of discouragement has been opposed to them in the performance of their duties.

The following is the state of the medical profession before 1815, as depicted by Dr. George Mann Burrows, in his Evidence before the Parliamentary Committee in 1834 : " Persons were allowed to practise as surgeons, apothecaries, and midwives, to dispense medicines, and to compound prescriptions in England and Wales, who had never received any education to fit them to exercise those functions ; *whereby the public were much injured, and the character of the medical profession was lowered.*" The same gentleman is asked, nearly twenty years after the passing of the Act : " What do you say of the manner in which they" (the Court of Examiners of the Society of Apothecaries) " have exercised their powers ?" and he replies, " I think they have carried the Act into effect, in the most material matters, in a manner which has been most highly conducive to the benefit of the members of the profession, and to the benefit of the public." [*Report on Medical Education*, Part iii. p. 17.]

We have now lying before us the Regulations of the Court of Examiners of the Apothecaries' Society, from the year 1815 to the present time ; and we cannot but remark the diligence which they seem to have evinced, during successive years, in extending the education, and thereby improving the character and rank of the medical practitioner. The Court seem to have been impressed, from the beginning, with the absolute necessity of certain branches of science to the completion of the education of the general practitioner ; and we accordingly find, that they consistently insist from first to last upon the necessity, 1st, of preliminary knowledge ; 2nd, of Anatomy and Physiology ; 3rd, of the Theory and Practice of Medicine ; 4th, of Chemistry ; and 5th, of Materia Medica.

In the first regulations issued by the Court of Examiners, dated July 31, 1815, we find that the candidate " is expected to possess *a competent knowledge of the Latin language*, and to have attended lectures on Anatomy and Physiology, on the Theory and Practice of Medicine, on Chemistry, and on Materia Medica, and to have attended medical practice in an hospital, infirmary, or dispensary." The examination, we find, consisted in translating the Pharmacopœia Londinensis and Physicians' prescriptions, in the Theory and Practice of Medicine, in Pharmaceutical Chemistry, and in the Materia Medica.

In the year 1826, the Court of Examiners published the following note in capital letters ; and to this note we beg to direct the particular attention of our readers :

" The Court are extremely anxious to impress upon those persons, who may be intending to present themselves for examination before them, a conviction of the absolute necessity of such knowledge of the Latin language, as may enable them to translate the Pharmacopœia Londinensis and prescriptions of Physicians, which they consider as a qualification indispensable to the apothecary, and which the fifth section of the Act expressly requires.

" They are particularly induced to give greater publicity to this regula-

tion, because they have had the distressing duty imposed upon them, of withholding certificates of qualification from several persons, principally from their great deficiency *in this most important pre-requisite to a Medical Education.*"

In this year, the candidate is examined in Anatomy and Physiology, and in Medical Botany, in addition to the subjects prescribed for examination in 1815.

In 1827, in addition to the other subjects of study, the candidates are "earnestly recommended to attend one or more courses of lectures on Midwifery and the Diseases of Women and Children, on the latter of which subjects they will be examined." The Court determines also that the candidate shall translate *grammatically* parts of the Pharmacopœia Londinensis and physicians' prescriptions, and "should any doubt arise as to the candidate's possessing a competent knowledge of Latin, he will be required to translate a passage or passages from some one of the easier Latin authors": and in this year, the Court repeat their admonition to the candidates of the risk of rejection if they fail in this particular.

In 1828, the student is required to attend two courses of anatomical demonstrations, in addition to the lectures on Anatomy and Physiology.

In the year 1830, the most important advances are made, and the regulations of the Court are accompanied by a preface, which is characterized by moderation and good sense. The following extracts are perfectly applicable to the circumstances of the present times.

"The Court of Examiners, in instituting the following regulations, do not by any means conceive that they are requiring the maximum of knowledge that might be expected from the apothecary, but merely that quantity of information which the general advancement of science demands, and certainly not more than is requisite to afford a just degree of security to those whose lives are entrusted to his care, including the majority of the inhabitants of every large city in the kingdom, and the bulk of the population throughout the country.

"In addition to the studies mentioned in the following pages, the Court beg seriously to impress upon parents and guardians who destine the youth under their care to the study of medicine, *that a familiar acquaintance with the Latin language is indispensable; and that a knowledge of Greek is scarcely less so,* since most of the terms of art employed in medicine and the collateral sciences, are derived from that expressive language. Natural history may be said to be essential to the proper study of the Materia Medica; and an acquaintance with the exact sciences will not only enable the student to understand more readily the admirable structure and functions of many parts of the human frame, but also assist him materially in acquiring habits of precise and correct reasoning.

"It is of great importance, that the parent who apprentices his son to an apothecary, as well as the master who receives him, should previously ascertain *that the youth has been liberally educated*, and that his classical attainments, more especially, are such as enable him to pursue his subsequent studies with credit and advantage.

"The Court have too much reason to know and lament, that notwithstanding all their precautions, the attendance upon lectures, and more especially upon hospital practice, is often grossly eluded or neglected: and they deem it their duty to express a hope that the teachers of the various branches of medical science, with whom the correction of this abuse must principally rest, will turn their attention to the removal of an evil of such magnitude. It would be competent to the teachers to insist upon periodical signatures from their respective classes, proving that the pupils are actually in attendance; and it would be equally in their power entirely to withhold certificates from those who have neglected their attendance, or to qualify the testimonial in such a manner, that the Court may apply to those who

have been negligent that degree of rigid scrutiny which the justice of the case might appear to demand."

In this year, the candidate is required to devote at least *two years* to attendance on lectures and hospital practice; the attendance on lectures upon Chemistry is doubled in amount; the same is the case with the lectures on Materia Medica; and a specific course of lectures on Botany is added to the curriculum; and we now find that the course of study includes Midwifery, and the Diseases of Women and Children, and Forensic Medicine. The examination is now found to consist in translating parts of *Celsus de Medicinâ*, or *Gregory's Conspectus Medicinæ Theoreticæ*, in addition to the *Pharmacopœia Londinensis*, and physicians' prescriptions; in Chemistry, in Materia Medica, and Therapeutics; *in Botany*, in Anatomy and Physiology, and in the Practice of Medicine.

In the year 1832 the Court of Examiners again revise their curriculum, and again append a preface characterized by the same good sense and moderation as we have had occasion to notice in the previous address. The following extract is an excellent specimen: "It can need no argument to prove that the apothecary should have a sound and liberal education, and be practically acquainted with the duties of his profession, when it is considered that he ministers to the great mass of the people in the function of the physician, and, by the usage of society, has the immediate superintendence of the public health entrusted to him. In the metropolis, and in the large provincial towns, he can be aided, in cases of difficulty, by the learning of the physician. Elsewhere, he cannot avail himself of such valuable assistance; but in cases of danger, which are of frequent occurrence, he is obliged to rely exclusively upon his own resources, and can therefore alone be sustained, under this awful responsibility, by a well-founded reliance on a knowledge of his profession."

In the address of this year, the Court again urge upon the student the indispensable necessity of a sound classical education, of a knowledge of the mathematical sciences, and of the French and German languages. They also point out the necessity of making the period of apprenticeship the season of study, *and strongly condemn the impropriety of wasting it in practical pharmacy.* They also urge upon the teachers of medicine and the collateral sciences, the advantages of *practical knowledge* to the pupils; and they especially direct the attention of both teacher and student to the important subjects of practice, chemistry, and clinical medicine. The curriculum of this year presents no important variation from that of 1830; but we now find that the courses of Anatomy and Physiology, and of Anatomical Demonstrations, are directed to be of the same extent as is required by the Royal College of Surgeons of London, evincing an evident desire, on the part of the Society of Apothecaries, to act in harmony with the College. The examination in this year, includes, for the first time, the important subject of the Diseases of Pregnant and Puerperal Women, and the Diseases of Children.

In the year 1835, the Court again make most important alterations in their curriculum, and their mode of examination. The principle is distinctly enunciated, that the term of apprenticeship may and ought to include *the whole period of medical study;* and the attendance upon lectures and hospital practice, which, in former years might be accomplished in six months, is now made to extend over a period of three years, and to consist of three winter and two summer sessions. The Court thus restrict the term of actual service as an apprentice to two years; and they argue, and, we think, very justly, that to a youth previously well acquainted with the classics, the elements of the mathematics, and the modern languages, "this period of apprenticeship is by no means of small importance; for, during that time, it is incumbent upon the master to take care that his apprentice keeps up, and extends, by a regular course of reading, both his classical and general knowledge. It is also his duty to ascertain, by occasional examinations, that

his pupil is acquiring the elements of professional knowledge, and that opportunities should be afforded him of watching the progress of disease, and of noticing the effects of remedies." The Court proceed to show that their curriculum has been drawn up in strict conformity with the regulations of the College of Surgeons, so that the two courses required, the one by their own regulations, and the other by those of the College, may be completely harmonized, and the students subjected to no inconvenience in preparing themselves for the diploma and license necessary to enable them to practise their profession. A most important feature introduced into the examination during this year, is the separation of the Latin from the general examination, whereby the student is enabled to pass his Latin test at the commencement of his medical studies at the schools.

No important alteration is now observed during several successive years; and it is generally understood that the Court of Examiners refrained, for some time, from offering any observations upon the subject of medical education, in the expectation that some comprehensive measure of medical reform would receive the sanction of the legislature; but the discussions upon that subject have given rise, unhappily, to the utmost dissension, and have unquestionably retarded the progress of sound education. The minds of the students having been distracted by theoretical questions of medical reform, the attention to accurate scientific principles has been relaxed in proportion; and the public have been the sufferers, in the diminished standard of professional attainments reached by their medical advisers. But as year after year rolled away, and the whole question of medical reform appeared as far as ever from a satisfactory adjustment, the Court of Examiners of the Society of Apothecaries have again, in the year 1850, proceeded to make some very important and beneficial changes in their curriculum. The Latin examination is now held upon a separate day from the general examination; and the student is required not only to translate the language, but to explain its grammatical construction, the object evidently being to encourage a sound knowledge of the language, rather than that parrot-like acquaintance with it which may be acquired by the help of translations and the exercise of mere memory. The pursuit of Practical Chemistry, which was formerly an indefinite appendage to the course of lectures on that subject, is now made a distinct and separate course, and includes the actual instruction of the pupils in the manipulations of the science, in determining the presence of poisons, in analysing gaseous compounds, and in examining the different secretions of the body. We are informed that the student is now examined in Practical Chemistry in the examination-room, by means of tests and other re-agents, which are placed in his hands. Another subject which the examiners have prominently encouraged, is the *study of Clinical Medicine;* and the Court now express their readiness to receive, "in place of a second course of lectures on the theory and practice of medicine, a certificate of attendance on a course of Clinical Lectures, provided such lectures be delivered in a recognised hospital, by a distinct professor, and consist of not less than seventy-five lectures." The object of defining the number of lectures, is stated to be the abolition of the loose and inefficient manner in which clinical lectures have been hitherto given, and to cause a definite system of instruction to be pursued in this most important and essential department of medical science. Another change, which is observable, is the transference of the lectures on Materia Medica and Midwifery from the winter to the summer session; but to this change we by no means yield our cordial approval; for, although the Court state that this alteration was arranged after a conference between the authorities of the College of Surgeons and the Hall, and that it is intended to give the student more time for the study of Anatomy and Chemistry, we yet fear that, under present circumstances, the result will be, to discourage the cultivation of materia medica and of midwifery; departments of medical science of essential importance to the general practitioner.

The Regulations of the College of Surgeons are in striking and remarkable contrast with the Regulations of the University of London and those of the Society of Apothecaries. We do not intend, for reasons given at the commencement of this article, to enter upon the education of the pure surgeon, as he is absurdly called, and we therefore intend to make no remarks upon the Fellowship of the College, or the Regulations which have been issued in regard to it. Our only object, at present, is to shew the relation which the College of Surgeons bears to the general practitioner: and here we may remark, that if the College repudiate and despise general practice, we cannot see why it should continue to examine general practitioners. Let the College become what it professes to be, an institution for the cultivation of pure surgery, and we are willing and anxious to give it our warmest support. We cheerfully admit the distinguished talents of many of its Examiners, Council, and Professors: we admire its magnificent museum, and the assiduity exhibited in its maintenance and enrichment: we applaud the zeal and munificence which have raised its splendid library, nay more, we think that the Government ought to endow so noble a National Institute with sufficient funds to carry out the praiseworthy intentions of its founders. It certainly ought not to be upheld, as at present, by the examination fees of general practitioners. The system is alike injurious to the dignity of the College and the safety of the public. But as the College, while denouncing and ridiculing general practice, actually derives its principal emoluments from the very class which it despises, we are by no means stepping out of the path of fair criticism, when we examine the claims it possesses to confidence and support as an educating and examining body.

In perusing the Regulations of the College of Surgeons of England, from the year 1828 down to the present time, we look in vain for any expression of sympathy for the members of the profession, any indication of a desire for their improvement, or any remarks about their preliminary education. In not one of these Regulations is the subject of classical knowledge ever alluded to in the most distant manner, nor indeed is it hinted in any part, that the College requires any preliminary education whatever. The importance attached by the Council of the College to these and other trifles, is reserved for the Hunterian Orations, when a great deal of fun is excited by the orators, and a great deal of amusement afforded to the Members of Parliament and others of the laity who assemble on those occasions, by the witty allusions made to the people who "wield" the pestle and mortar, who converse with their apprentices in dog-Latin, and who make young gentlemen pay them a large sum for the privilege of brushing their shoes and opening their shop-shutters: then, when the merriment has a little subsided, a serious turn is given to the discourse; the giant evil of the profession is declared to be the want of preliminary education, the orator, however, always forgetting to mention that his own College has, by its culpable negligence, encouraged that very ignorance which it now affects to discover and deplore.

In the Regulations of the College of Surgeons published in 1828, we find that the candidate is required to have completed *his twenty-second year*, and to prove that he has been engaged *six years at least* in the acquisition of professional knowledge, and of having regularly attended three or more winter courses of Anatomy and Physiology, and two or more winter courses of Dissections and Demonstrations delivered at subsequent periods; together with two or more courses of lectures on the principles and practice of Surgery. He is likewise required to prove that he has attended lectures on the Theory and Practice of Physic, upon Materia Medica and Botany, upon Chemistry, and upon Midwifery; and that he has attended, during one year, the surgical practice of certain specified hospitals in England, Ireland, or Scotland.

The examination, we should remark, consisted at that time, of questions in

Anatomy and Surgery ; *and it consists of precisely the same subjects at the present day.*

Now these Regulations, considering the time at which they were issued, and notwithstanding the total omission of the slightest mention of preliminary education, are to a certain extent commendable ; and those who passed the ordeal may be said to have offered some guarantee as to their competency to practise surgery. We might fairly have expected that the Court of Examiners would, from time to time, have made such alterations and improvements in their curriculum, and in their examinations, as the circumstances of the times, and the increased facilities offered to students, might seem to justify or to suggest. But, to our utter astonishment, the College diminishes its standard of education, in exact proportion to the increasing diffusion of professional knowledge. Thus we find, in the above Regulations, that the student must have spent at least *six years* in the acquisition of professional knowledge ; but, in 1835, the College requires him to study only *for five years*, and in 1838, *four years* are considered sufficient. So that in 1828, when the anatomy taught, consisted of little more than a catalogue of the structures of the human body—when surgery was comparatively unformed—when physiology was in its infancy—when comparative anatomy was almost unknown as a distinct branch of science—when pathology and morbid anatomy were generally neglected—when the microscope was only in the hands of the few—when clinical surgery had not yet been taught in this country :—at this period, we say, six years were considered to be necessary for the manufacture of a surgeon ; but from 1838 to the present time, when anatomy, general, special, comparative, and morbid ; surgery, practical, theoretical, and clinical ; physiology, both animal and vegetable, have all advanced with rapid strides, and have swelled the bulk of the student's labours to at least one hundred times their former extent, four years are considered amply sufficient for the purpose ! We shall not waste words upon this portion of the Regulations, as its absurdity speaks for itself. Again, the College requires in 1828, that the student who presents himself for examination, shall be twenty-two years of age. Now, there was a very obvious advantage in this Regulation ; for as students were allowed to present themselves at Apothecaries' Hall at twenty-one, the extra year was exceedingly well employed in acquiring a more complete knowledge of anatomy, and in attending more closely to hospital practice than could be accomplished while they were learning some of the preliminary branches of knowledge, such as Latin, Pharmacy, Chemistry, Botany, etc. ; and independently of this consideration, the age of twenty-two is quite early enough for any man to receive a diploma to practise surgery. But in 1838, we find that the candidate is required to be only twenty-one years of age. We fear the effect of these changes has been mischievous in the extreme ; for in former times, the pupil commenced his medical career perhaps at sixteen years of age : for two or three years he probably served an apprenticeship, during which time he acquired a facility of reading prescriptions, of compounding drugs, and of recognising their most striking characters ; and he would also be made acquainted with the symptoms of various common ailments, and with, at least, the minor operations and manipulations of surgery. This sketch puts the apprenticeship in the lowest point of view ; but where the master was an intelligent and conscientious man, in extensive practice, a large portion of time would be occupied in obtaining from books, and orally, much practical information in connexion with the subjects of interest passing under his daily notice. At eighteen or nineteen, the pupil came to London ; he commenced his collegiate or hospital career by studying Anatomy, Physiology, Chemistry, and Materia Medica, and afterwards the other branches of science in their prescribed order. At twenty-one, he was enabled to present himself for examination at Apothecaries' Hall, and was examined, (as every medical or surgical student ought

to be) in Latin, Chemistry, Materia Medica, Practice of Physic, etc.; and as we have just remarked, he had then a whole year for a farther pursuit of the higher branches of Anatomy, Physiology, Pathology, and Surgery, before he could present himself for examination at the College of Surgeons.

Now the student so educated and so examined, was very fairly qualified to practise the profession with credit to himself and with advantage to the public; and the systematic manner in which his studies were pursued, must have had no small influence in the discipline of his mind. But at present, the student may offer himself for examination at the College of Surgeons at twenty-one, and he requires only four years of professional study. When, therefore, a student comes of age, he reflects upon the examination which it is most convenient for him to pass; and if he be totally ignorant of the classics, wholly unacquainted with chemistry, materia medica, and the practice of physic, he *of course* selects the College of Surgeons, upon the strength of a smattering of anatomy and an infinitesimal proportion of surgery. He then issues forth from the stately portals in Lincoln's Inn Fields, with his diploma in his hand, and considers himself lawfully qualified to practise his profession! Now, in all seriousness, ought this state of things to exist? Is a man competent to practise the medical profession upon such slender acquirements as those we have just noticed? Admitting, as we cheerfully do, the immense and paramount importance of anatomy, and the great utility of surgery, are these *all the branches* which a student of the present day ought to acquire? We repeat, that a student may pass the College of Surgeons of London with a smattering of anatomy and a little surgery; and we ask again, is a man so examined fit to practise the profession, in which nine-tenths of the cases he will be called to attend, are purely medical? During the present century, a flood of intellectual light has illuminated the domains of medical science; the brilliant discoveries of Priestley, of Black, of Cavendish, of Davy, have paved the way to that comprehensive science of chemistry, which, interwoven at it is with almost every process either of nature or of art, is more particularly connected with physiology and with medicine, inasmuch as most of the operations of the body, both in health and disease, are governed by its laws. The genius of Laennec, and the labours of the other eminent pathologists of this country and the continent, have brought to light innumerable forms of disease, formerly enveloped in impenetrable obscurity; the researches of practical physicians have revealed a vast variety of remedies calculated to assuage pain, to arrest disease, and to prolong human life; and the science of hygienics has in many cases detected the subtle forms of poison lurking in the waters and in the air; and while it has revealed their presence, it has often baffled or mitigated their malignity. But to not one of these sciences need the candidate for examination at the College of Surgeons give any practical attention; for although it be true, that the College direct him to attend lectures upon some of the subjects, it does not demand any proof that he has understood their meaning, or appreciated their importance; he is merely required to shew that he has paid for the lectures: for if present, he may have been asleep upon the benches, or what is just as probable, may have been absent altogether. The practice and policy of the Royal College of Surgeons of England appears to be, to admit, as members, as great a host as possible, at the *minimum* expenditure of time, and the *minimum* exertion of intellect; and we have no hesitation in expressing our opinion, that *taken by itself*, the diploma of this College is, as a testimonial of professional ability, the *very worst* in the United Kingdom of Great Britain and Ireland; and that the whole proceedings of the College, so far as the general practitioners are concerned, *have been calculated to degrade the medical profession in this country*.[1]

[1] The case of the Taunton pastry-cook (now in practice as a charlatan), may be remembered by our readers. This man, by imposing on the College by forged certificates of study, was received on trial, and of course obtained his diploma!

Strong as this language undoubtedly is, it is quite consistent with the truth ; and, indeed, it is curious enough that its justice is admitted by the College itself. In a manifesto published in 1845, it was first announced that the College considered the great bulk of its own members as qualified only for the "ordinary exigencies" of surgical practice ! While, as to medical practice, of course, the College never took any trouble in the matter. Now, the plain English of this is, that the College of Surgeons considers its members as qualified to bleed, draw teeth, and set bones, and regards its diploma simply as a certificate of fitness for such manual and mechanical performances. In a manifesto from the College recently published, the same view is maintained, although in language exceedingly ornate, often ambiguous, and always mystical. In this communication, it is not very difficult to discover, that the object is to shew the propriety and expediency of degrading the standard of professional education and examination ; and an anxiety is tenderly expressed, that if the standard of qualification be made too high, the remuneration for professional sciences will be thought too low, and the lower orders of people will be compelled to have recourse to the quacks and the druggists. This argument is wholly hypothetical, and entirely fallacious ; but as it is somewhat specious and plausible, it requires a few remarks.

In the first place, we may observe, that we never heard of any difficulty being experienced by persons in procuring efficient medical assistance, if they thought proper to seek it. The meanest pauper may procure the attendance of the Union medical-officer ; the grade just above the pauper procures relief at the hospitals and dispensaries ; and the class who are able to pay a little, may obtain the services of well-qualified practitioners, especially of young men, who rarely display any reluctance to attend for a small remuneration, as the system initiates them into practice, and leads honourably to a better professional connexion.

But, regarding the subject in another point of view, let us ask what would be thought of our universities of Oxford and Cambridge, if they were to reason in the following manner concerning the Church ? "We annually send forth from our colleges several hundreds of young men, many of whom will enter the Church of England ; now, the mass of these our graduates must necessarily take curacies, and this ill-paid majority will probably pass their lives in preaching the gospel to the coarse bumpkins of a country village—very few can become bishops, deans, or prebends : *therefore*, let us alter our system, let us create an intellectual aristocracy of the profession—let us examine the select class in Latin, Greek, Hebrew, and mathematics ; but, as the rest are only to exercise the ordinary duties of country curates, let us relax our regulations so far as they are concerned, let their examination be merely nominal, and the real examination be reserved for those who are to occupy the higher walks of the profession." But the universities never reasoned in so criminal a manner, or ever proposed so shameful a scheme ; they very properly fix a standard which is uniform for all their candidates, and the country curate knows that he has passed the very same kind of examination as the bishops and the archbishops.

Again, it has been argued, that if the qualifications for a profession be raised too high, the difficulty of obtaining them will deter so many from the pursuit, that an insufficient number will be found to supply the wants of the community. Now this argument is proved to be entirely fallacious, by the most positive evidence ; for it was found, that when the Court of Examiners of the Society of Apothecaries gradually extended their curriculum, and were progressively rendering their examination more and more difficult, the number of registered students *was annually increased*. Again, we conceive, that no one will accuse our universities of undue laxity in the granting of degrees to those, who are to become ministers of the Church. It is well known, that the education for the duties of the ministerial office is both expensive and laborious, and yet the number of clergymen is enormous ; and that *emolument* is not the only object

which can induce so many to enter the Church is evident from the fact, that several thousands of the clergy have salaries under £100 a-year.

Let us now gather together the substance of the preceding pages. There are three examining institutions in London, connected with the general practice of this country: the University of London, which examines, searchingly and efficiently, in every branch of medical as well as general science; the Society of Apothecaries, which, as far as the act of Parliament will allow, examines efficiently in Medicine, Chemistry, Anatomy, and Materia Medica; and the College of Surgeons, which examines most inefficiently in Anatomy and Surgery. The first enforces a preliminary examination, of a very comprehensive character, from those who are to become its graduates; the second requires, at least, a knowledge of the Latin language, to be evinced by parsing and translating certain Latin classical authors; the third, unlike any other collegiate institution in the civilized world, requires no preliminary education at all.

Notwithstanding the present confused and chaotic state of medical education, much might be done for its improvement by a very slight alteration of existing laws and privileges. The University of London, having the complete power of examining in all departments both of general and medical education, might very fairly be resorted to by all ambitious students of medicine, whatever branch of the profession they may intend to pursue; and if it be answered, that the emoluments of the corporations would suffer by such a system, it might be conceded to those who possess the University degree, that they should obtain their license to practise upon the payment of the fees, and upon passing a merely nominal examination. For those, however, who do not possess the University degree, we would make it compulsory that they should obtain the license of the Apothecaries' Company, and the diploma of the College of Surgeons. *With only one of these testimonials, no person should be licensed to act as a general practitioner.* We would also make it compulsory, that no person whatever should receive the diploma of the College of Surgeons, without giving proof that he possesses some classical and general knowledge.

The license of the Apothecaries' Company by no means entitles a man to practise, either legally or morally, all the branches of the medical profession, because surgery is necessarily (owing to the terms of the act of parliament) excluded altogether from the curriculum, and from the examination; and the science of midwifery does not meet with the consideration to which it is entitled. But imperfect as the education enforced by the Society of Apothecaries undoubtedly is, it is infinitely superior to that enjoined by the College of Surgeons, which sends forth its members upon the strength of a little anatomy and less surgery (which may be picked up, *and often is picked up*, in a few months), to practise all the branches of the profession, if not at home, yet in the army, the navy, the East India Company's service, and in the colonies; although the members so licensed may be, and very often are, wholly ignorant of medicine, midwifery, chemistry, materia medica, and botany.

Therefore we argue, that as long as the present corporations continue to exist, the general practitioner ought only to obtain his license to practice, after passing the examination both of the College and of the Hall. The examinations ought to be divided, and a preliminary examination should be instituted *for all students whatever*. The Apothecaries' Hall might relinquish examination in anatomy and physiology; and on the other hand, the examination of the College of Surgeons should not be hurried over in an hour, but be made *a really good and efficient one*, comprehending a thorough investigation of the candidate's acquirements in anatomy, physiology, pathological anatomy, and surgery. This plan would not only be decidedly useful to the College in a pecuniary view, but it would likewise be beneficial to all parties; for we consider, that the present system of sending forth a host of half-educated

men is highly injurious to the social status of our profession; and unsafe to the public, who are not aware that a member of the College of Surgeons is only examined in Anatomy and Surgery.

Our desire is not to destroy existing institutions, but to urge the necessity of fortifying their weak points, and of rendering them fit for the age we live in. In conclusion, we would remark, that our silence in these articles regarding the Scotch and Irish Colleges, has not arisen from an insensibility to their importance, but simply from a desire not to obscure striking facts by complicated details.

The Treatment of Secondary, Constitutional, and Confirmed Syphilis, by a Safe and Successful Method, with numerous Cases and Clinical Observations. By Langston Parker, Surgeon to the Queen's Hospital, and Professor of Anatomy and Physiology in Queen's College, Birmingham. London: 1850.

The present work is not intended, says the author in his preface, to illustrate the nature and the varieties of Syphilitic Diseases, but to point out an easy and efficacious way of curing them. This method consists in mercurial fumigations, a plan not altogether new, but one which has fallen into perhaps unmerited neglect. The "mercurial vapour bath" is thus described by the author. "The method I employ consists in surrounding the patient with an atmosphere of mercurial vapour in a moist state. It has all the advantages attributed to the best conducted, most successful, and least hurtful mercurial treatments conducted in the ordinary modes; it has none of their disadvantages; it neither produces mercurial fever, salivation, ulcerations of the mouth, erethism, debility, or any form of cachexia, so common from prolonged ordinary mercurial treatments. It has the superior advantages of effecting speedy and permanent cures, without confinement and without risk.

"The patient is placed on a chair, and covered with an oil-cloth, lined with flannel, which is supported by a proper framework. Under the chair are placed a copper bath, containing water, and a metal plate, on which is put from one to three drachms of the bisulphuret of mercury, or the same quantity of the grey oxide or the binoxide. Under each of these is a spirit lamp. The patient is thus exposed to the influence of three agents, heated air, common steam, and the vapour of mercury, which is thus applied to the whole surface of the body in a moist state. After the patient has remained in the bath from five to ten minutes, perspiration generally commences; and by the end of twenty or thirty minutes, beyond which I do not prolong the bath, it is generally excessive. The lamps are now removed, and the temperature gradually allowed to sink: when the patient has become moderately cool, the coverings are removed, and the body rubbed dry: the patient is suffered to repose in an arm-chair for a short time, during which he drinks a cup of warm decoction of guaiacum, sweetened with syrup of sarsaparilla." (p. 4.)

"I am in the habit of using four mercurial preparations for the bath; the bisulphuret of mercury, the grey or black oxide, the binoxide of mercury, and the iodide. These may be used singly or combined in different ways, to suit the peculiarities or emergencies of each particular case. The first three preparations are milder than the last, and from half a drachm to four drachms may be used with perfect safety. In one case, half an ounce was used for each bath, and two applications were sufficient to bring the system fully under the influence of the remedy. The iodide must be used in smaller quantities: nearly the whole of this preparation is rapidly converted into vapour, and, unlike all the other preparations, leaves scarcely any ash behind it. From five grains to half a drachm of the iodide is sufficient, and it is better to use it in small quantities, mixed with a larger proportion of either of the other preparations. In affections of the testes (sarcocele), and of the bones (the various forms of ostitis or periostitis), a combination of a scruple of the iodide, and one or two drachms of the bisulphuret or binoxide, would be a proper form. For

local application to the cavities of the nose or mouth, a few grains only should be employed, as the vapour of the iodide of mercury is more irritating and more powerful than that of either of the other preparations I have mentioned." (p. 7.)

Mr. Parker illustrates his treatment, by the record of thirty-two cases in which the mercurial bath was employed with marked success. The only objection to the plan, appears to us to be the inconvenience of its adoption in private practice; but in hospitals, where the requisite apparatus can be kept always in readiness, we have no doubt of its efficacy. As we are among those who think that a moderate mercurial treatment is sometimes necessary, or at least is the best method of treating certain cases and forms of syphilitic disease, (both primary and subsequent), and as we believe the endermic to be a very speedy and a very efficient method of administering remedies, we commend this little book to the favourable notice of our readers.

An Account of some Discoveries relative to Consumption. By John Gardner, M.D., Fellow of the Chymical Society, Founder of the Royal College of Chymistry, Editor of Liebig's Letters, and Lecturer on Organic Chymistry, etc. Pamphlet, pp. 43. London: 1850.

We have serious doubts as to the propriety of even noticing this pamphlet. When an author studiously insults the profession to which he belongs, making parade of his choice of the public for his audience, avowedly by reason of the presumed *ignorance* of his professional brethren, he can scarcely complain if his lucubrations meet with the contemptuous silence they deserve. We shall, however, put our readers in possession of what Dr. Gardner proclaims as his discovery: and that we may not be suspected of misrepresentation, we shall quote his own words.

"Amid this diversity of causes, general and local, is there any common circumstance or condition traceable, which is the first step towards the production of consumption—the first link in the chain of morbid actions?—the primary proximate cause of the disease? There is. It consists in the formation of a *ζύμη*, a leaven, or *ferment*, by an incipient, putrefactive process, a molecular change, the transformation of a portion of albuminous matter, which first leads to its self-propagation, and afterwards, or simultaneously, determines the formation of tubercle. This is the key-truth to a just theory of Consumption", etc. (p. 31.)

"When, therefore, by the operation of those general causes above enumerated, the *ζύμη*, or ferment, is produced in any part of the body, it is conveyed by the blood-vessels into the lungs, and there permeating or exerting its influence through the membranous septa (known to be amongst the most delicate in the body), a chymical change, or transformation, is set up, the albumen in the loose, spongy texture of the lungs is ready, and tubercle is formed; which being an insoluble compound, is there detained, and undergoes further changes, softening, etc., more nearly approaching, in fact, towards absolute putrefaction." (p. 33.)

The presence of this *ζύμη*, we are told, can be ascertained by chemical analysis of the secretions, including the expired air,—*how* we are not yet informed, the revelation of this, and of the *cure*, being reserved for a future pamphlet. Cautious reticence! Our readers will at once perceive, that the *idea* involved in Dr. Gardner's expositions is not new. Dr. Madden, in his recently published work, argued strongly in favour of the dependence of Phthisis on a special morbid poison; and the same has been more or less distinctly hinted at by some other observers.

The pamphlet being intended for the *public*, that same learned body is favoured with translations of various technicalities: *e.g.*, Emphysema *(i.e., air entangled in the texture of the lungs.)* Pulmonary apoplexy *(i. e., fulness of blood).* Aneurism of the aorta *(i. e., tumour upon a great blood-vessel).* We trust the public will be duly grateful for this accession to its available knowledge.

A Manual of Elementary Chemistry, Theoretical and Practical. By George Fownes, F.R.S. Third Edition. pp. 605. London: 1850.

The study of Chemistry is of paramount importance in the investigation of disease; and we may safely assert that no one can now arrive at eminence in the medical profession, who is not acquainted with that science. All the functions of the human body are governed by chemical laws; and, although their exact nature is still in some measure concealed from our view, enough has been done of late years to encourage us to farther attempts in this most ample field of inquiry. Believing as we do, that a knowledge of Chemistry is indispensable to every student of medicine or surgery, we hail with pleasure the appearance of the work before us, as being well suited to facilitate the acquisition of a competent knowledge of this science. The work of Dr. Fownes has long been before the public, and its merits have been fully appreciated as the best text-book on Chemistry now in existence. We do not, of course, place it in a rank superior to the works of Brande, Graham, Turner, Gregory, or Gmelin, but we say that, as a work for students, it is preferable to any of them. The time allotted to most students for acquiring a knowledge of their profession, is too short to allow them to master elaborate treatises; and therefore many of the manuals lately published, are exceedingly useful, in giving a condensed view of the more prominent and essential departments of medical science. If the student were, during his attendance on lectures, to make himself thoroughly acquainted with Dr. Fownes's manual, and at the same time to perform for himself many of the experiments which are therein described, he would thus acquire a knowledge of Chemistry, which would be of infinite service to him in after-life.

The present edition differs but little from its predecessors; but, as a warranty of its being on a level with the present state of Chemistry, we may state that Dr. Bence Jones has corrected the press, and made the few alterations and additions which were necessary.

A Practical Handbook of Medical Chemistry. By John E. Bowman, Demonstrator of Chemistry in King's College, London. pp. 276. London: 1850.

This well written work of Mr. Bowman's, treats of the Practical Applications of Chemistry to Medicine. One great feature is, that the microscopical appearances presented by various organic substances, are, in it, faithfully delineated. The work consists of 246 pages, of which, 166 are occupied by the chemical and microscopical characters of the blood and urine; and we cannot too highly commend the very elaborate, yet clear and distinct manner, in which the appearances of these fluids, and their variations in disease, are described.

Mr. Bowman's work is not calculated for the beginner; but the student who has made himself master of the principles of Chemistry, will peruse it with pleasure and advantage. To the practitioner, the book is to be specially recommended, as giving a very clear account of many chemical matters, which must be ever coming before him in his daily practice. Every practitioner, and every student of clinical medicine, should endeavour to enrich his collection of books by adding to their number Mr. Bowman's little volume.

CLASSIFIED CATALOGUE OF THE PAPERS WHICH HAVE APPEARED IN THE BRITISH AND FOREIGN MEDICAL PERIODICALS FROM JANUARY 1849.

In fulfilment of our promise, we commence our CLASSIFIED CATALOGUE of the papers which have appeared in the British and Foreign Medical Journals since the commencement of 1849. The portion given this month consists of the articles on Pathology and Medicine, contained in most of the British and American Journals. As we wish to render this Catalogue, in connexion with our elaborate Indices, a perfect key to the Medical Literature of the World, we have to request our readers to inform us of any errors or omissions which they may discover in this or subsequent chapters.

CHAPTER I.

PRACTICE OF MEDICINE AND PATHOLOGY: BRITISH AND AMERICAN JOURNALS, FROM JAN. 1849 TO JUNE 1850.

BY ALEXANDER HENRY, M.D.

The following is a list of the Periodicals, with the abbreviations used in referring to them :—

London Journal of Medicine	Lond. Journ. of Med.
Medico-Chirurgical Transactions	Med.-Chir. Trans.
British and Foreign Medico-Chirurg. Review.	B. and F. Rev.
Lancet	Lancet.
Medical Gazette	Med. Gaz.
Medical Times	Med. Times.
Journal of Psychological Medicine...	Journ. Psych. M.
Provincial Medical and Surgical Journal ...	Prov. M. and S. Journ.
Edinburgh Medical and Surgical Journal ...	Edin. Med. and Surg. J.
Monthly Journal of Medical Science	Edin. Month. Journ.
Dublin Quarterly Journal	Dub. Quart. J.
American Journal of Medical Science	Amer. Journ. of Med. Sc.
Philadelphia Medical Examiner	Phil. Med. Ex.
Transactions of American Medical Association.	Amer. Trans.

CONGENITAL MALFORMATIONS.

MALFORMATION of Cranium, Encephalon, and Spinal Chord. DALTON (J. C.) Amer. Journ. of Med. Sc., April 1850, vol. xix, N. S., p. 340.

CONGENITAL Deficiency of Superior Portion of Cranium. TRUGIEN (J. W. H.) *Ibid.*, Oct. 1849, vol. xviii, N. S., p. 407.

——————— of Posterior part of Cranium and Spinal Column : Deformity of Genital Organs, etc. BREED (J. E.) *Ibid.*, p. 408 (wood-cuts).

ACEPHALOUS Monster born at the full period of Pregnancy. HARVEY (Mr.) Lond. Journ. of Med., Oct. 1849, vol. i. p. 974.

THORACIC and Abdominal Viscera, case of Transposition of. CLAPP (W.) Med. Gaz., Jan. 25, 1850, vol. xlv, p. 145.

VISCERA, case of Congenital Malformation of. CHARD (O. E. P.) Med. Times, Feb. 2, 1850, vol. xxi, p. 75.

URINARY BLADDER, Congenital Extrophy of. MACKAY (Dr.) Edin. Month. Journ., July 1849, vol. iii, N. S., p. 934. Abs. in Lond. Journ. of Med., August 1849, vol. i, p. 789.

——— case of Congenital Extrophy of. JONES (John). Prov. M. and S. Journ., Jan. 9, 1850, p. 10.

DISEASES OF THE BLOOD, AND OF THE NUTRITIVE AND EXCRETORY FUNCTIONS.

ANÆMIA and its Consequences: Enlargement of the Thyroid Gland and Eyeballs. Anæmia and Goitre—are they related? BEGBIE (James). Edin.

Month. Journ., Feb. 1849, vol. iii, N. S., p. 495. Abs. in Lond. Journ. of Med., March 1849, vol. i, p. 273.

Anæmia and Goitre, Protrusion of the Eyes in connexion with. Cooper (White). Lancet, May 26, 1849, p. 551. Abs. in Lond. Journ. of Med., July 1849, vol. i, p. 658.

——— and Dyspepsia, followed by Hæmatemesis, Clinical Lect. on. Walshe, (W. H.) *Ibid.*, March 31, 1849, p. 331.

Inflammation, unhealthy, Essay on. Gallwey (M. B.) *Ibid.*, vol. ii, 1849, pp. 307, 418, 472, 549, 571, 655.

Hæmorrhage, Observations on. Neligan (J. Moore). Dub. Quart. J., May 1850, vol. ix, N. S., p. 347.

Dropsy, Clinical Lectures on. Todd (R. B.) Med. Gaz., 1849, vol. xliii, pp. 309, 582.

Blood, unusual number of White Corpuscles in, in connexion with Enlarged Spleen, Clin. Lec. on Case of. Parker (E. A.) Med. Times, June 15, 1850, vol. xxi, p. 431. Abs. in Lond. Journ. of Med., July 1850, vol. ii, p. 691.

Exudation, and Elementary Forms of Morbid Products, Preliminary observations on. Clark (A.) Med. Gaz. 1849, vol. xliii, pp. 448, 490.

——— Simple, Cancerous, and Tubercular; their Pathology and General Treatment (numerous wood-cuts). Bennett (J. Hughes). Edin. Month. Journ., Feb. 1850, vol. i, 3rd S., p. 149.

Steatosis: or Adipification of Muscle. Hallett (C. H.) Edin. Med. and Surg. J., April 1849, vol. lxxi, p. 257. Abs. in Lond. Journ. of Med., May 1849, vol. i, p. 489.

Tuberculosis, intense acute general, with Perforation of Stomach. Beneke (W.) Lancet, Dec. 22, 1849, p. 664.

Obesity, remarks on. Wardell (J. R.) Med. Gaz. 1849, vol. xliii, pp. 494, 535, and 589.

Carcinomatous Lesions, contributions to the Pathology of. Black (J.) *Ibid*, July 6, 1849, vol. xliv, p. 21.

Animal Chemistry, Course of Lectures on, specially illustrating the Diagnosis and Treatment of Stomach and Renal Disease. Jones (H. Bence). Lancet, vol. i, 1850, pp. 1 (Truth in Medicine), 37 (Food), 69 (Digestion), 103 (The Blood), 137 (Calculi), 164 (Quantity and Acidity of the Urine), 197 (Uric or Lithic Acid), 225 (Oxalate of Lime and Sulphates; Sulphuric Diathesis, or Excess of Sulphates in the Urine), 259 (Alkaline and Earthy Phosphates), 287 (Alkalescence of the Urine), 324 (Albuminous Urine; Microscopic Appearance of the Urine in Bright's Disease), 349 (Diabetes and Diuresis), and 375 (Relation of the Urine to the Food and System; Method of Examining the Urine).

Acidity and Alkalinity of certain Liquids of the Human Body, in Health and Disease. Andral (M.) Edin. Med. and Surg. J., Jan. 1850, vol. lxxiii, p. 124. From Ann. de Chimie et de Physique, 3me Série, tome xxiv, p. 116. Paris: 1848.

Urine, Oxalate of Lime Crystals in. Walshe (W. H.) Edin. Month. Journ. Jan. 1849, vol. iii, N. S., p. 453.

——— Vesicles and Torulæ in. Thomson (Spencer). Med. Times, March 16, 1850, vol. xxi, p. 194.

——— Total Suppression of, during Seven Days, terminating in Recovery. Oke (W. S.) Prov. M. and S. J., May 16, 1849, p. 259. Abs. in Lond. Journ. of Med., June 1849, vol. i, p. 580.

——— Suppression of. Hall (J. C.) Lancet, vol. i, 1849, pp. 581 and 631, and vol. ii, p. 4. Abs. in Lond. Journ. of Med., Aug. 1849, vol. i, p. 750.

Gout and Rheumatism, connexion between. Garrod (A. B.) Lond. Journ. of Med., June 1850, vol. ii, p. 583.

Rheumatism, Acute, with Arachnitis and Pericarditis, supervening on Chronic Arachnitis and a remarkably Diseased Heart. Ancell (H.) Edin. Month. Journ., Jan. 1849, vol. iii, N. S., p. 446.

——— case of, with Pericarditis, etc., Clinical Lecture on. Walshe (W. H.) Lancet, Feb. 10, 1849, p. 141.

Rheumatism, case of, followed by Pleurisy, Clinical Lecture on. Walshe (W. H.) *Ibid.*, April 14, 1849, p. 387.

——— Nitrate of Potash in; with Suggestions for the use of External Saline Applications in Chronic Rheumatism. Basham (W. R.) Med.-Chir. Trans., 1849, vol. xxxii, p. 1; Lond. Journ. of Med., Jan. 1849, vol. i, p. 106.

Rheumatic Gout, case of, treated by Lemon-juice. Rees (G. O.) Med. Gaz., Jan. 26, 1849, vol. xliii, p. 156.

Diabetes, case of in a Child. Parsons (J.) Prov. M. and S. Journ., June 27, 1849, p. 342.

——— Mellitus, Perforations and other Lesions of the Stomach connected with. Macintyre (W.) Lond. Journ. of Med., May 1849, vol. i, p. 501, and April 1850, vol. ii, p. 353.

——— Treatment of: Substitute for Bread. Percy (John). Lancet, March 17, 1849, p. 289. Abs. in Lond. Journ. of Med., April 1849, vol. i, p. 379.

Scurvy, Observations on, in Bath and its neighbourhood, in the Spring of 1847. Barrett (John). Prov. M. and S. Journ., March 21, 1850, pp. 148, 173, 211.

——— Digest of Memoirs on, by Anderson (A.), Baly (Dr.), Bellingham (Dr.), Chatin et Bouvier (MM.), Christison (Dr.), Curran and Aldridge (Drs.), Fauvel, Becquerel, and Rodier (MM.), Foltz and Frick (Drs.), Garrod (Dr.), Laycock (Dr.), Lonsdale (Dr.), Ritchie (Dr.), Shapter (Dr.), Stiff (Dr.). Lond. Journ. of Med., Feb. 1849, vol. i, p. 181.

——— at York Factory, Hudson's Bay. Smellie (William). Edin. Month. Journ., Sept. 1849, vol. iii, N. S., p. 1061.

——— respective value of Lime-juice, Citric Acid, and Nitrate of Potash, in the Treatment of. Bryson (A.) Med. Times, 1850, vol. xxi, pp. 212 and 435.

Goître, cases of, with Observations. Alison (Scott). Lond. Journ. of Med. June 1849, vol. i, p. 518.

Glanders from Infection. Kelly (Dillon). Dub. Quart. J., Nov. 1849, vol. viii, N. S., p. 442.

DISEASES OF THE SKIN.

Skin, Contributions to the Pathology of. Burgess (T. H.) Med. Gaz., 1849, vol. xliii, pp. 315, 412, 595, 758, 933; vol. xliv, p. 314.

Skin-Diseases, Pathology and Treatment of. Neligan (J. Moore). Dub. Quart. J., Nov. 1849, vol. viii, N. S., p. 340.

——— Classification and Diagnosis of. Bennett (J. Hughes). Edin. Month. Journ., April 1850, vol. i, 3rd S., p. 345.

——— on the Treatment of some: (viz., Psoriasis and Lepra). Griffith (S.) Lancet, May 26, 1849, p. 559.

——————— Action of Acetate of Potash in. Easton (J. C.) Edin. Month. Journ., May 1850, vol. i, 3rd S., p. 422.

Eczema and Impetigo, Local Treatment of Chronic. Bennett (J. Hughes). Edin. Month. Journ., Aug. 1849, vol. iii, N. S., p. 963. Abs. in Lond. Journ. of Med., Sept. 1849, vol. i, p. 793.

Ringworm, or Trichophyton Tonsurans. Malmsten (P. H.) Edin. Med. and Surg. J., Jan. 1850, vol. lxxiii, p. 50. From Müller's Archiv., 1848, p. 1.

Erythema Nodosum, and its connection with the Rheumatic Diathesis. Begbie (Dr.). Edin. Month. Journ., May 1850, vol. i, 3rd S., p. 487.

Spedalskhed of Norway. Danielssen (D. C.), and Boeck (C. W.) B. and F. Med. Chir. Rev., Jan. 1850, p. 171. An Analytical Review of the Norwegian Works on the above Disease, which is allied to Elephantiasis.

Elephantiasis in Tracadie, New Brunswick, Essay on. Bayard (R.) Lancet, vol. ii, 1849, pp. 225, 256.

FEVERS.

Fever, Irish Epidemic, especially as it prevailed in 1847-48. Dub. Quart. J., February, May, August, and November 1849, vol. vii, N. S., pp. 64 and

340, and vol. viii, pp. 1 and 270. This elaborate and valuable report consists of original papers by numerous observers in different parts of Ireland, arranged and digested by the Editor.

Fever, Edinburgh, of 1843-44. Cormack (John Rose). Med. Gaz., April 13, 1849, vol. xliii, p. 653. Abs. in Lond. Journ. of Med., May 1849, vol. i, p. 492.

——— in the Coleraine Union Workhouse, and in the Union, co. Londonderry, Ireland, in 1847 and 1848. Babington (T. H.) Med. Gaz., Dec. 7, 1849, vol. xliv, p. 962.

——— in South Wales. Massy (Tuthill). Dub. Quart. J., Nov. 1849, vol. viii, N. S., p. 438.

——— in the Garrison of St. Ann, Barbados. Davy (John). Edin. Med. and Surg. J., October 1849, vol. lxxii, p. 277.

——— Endemic, of Ceylon, Practical Remarks on. Cameron (J. C.) *Ibid.*, Jan. 1849, vol. lxxi, p. 70.

——— Lectures on. Macilwain (George). Med. Times, 1849, vol. xix, pp. 207, 227, 263, 283, 299, 331, 351, 427, 485, 543, 599; vol. xx, p. 46.

——— Patients, Distribution of, in a Hospital. Christison (R.) Edin. Month. J., March 1850, vol. i, 3rd S., p. 282.

——— Case of Slow Action of the Heart in. Halpin (Chas.) Dub. Quart. J., May 1849, vol. vii, N. S., p. 501.

——— Tropical, Contributions to the Pathology and Treatment of. Bird (James). Lond. Journ. of Med., Jan. & Feb. 1849, vol. i, pp. 43 & 152.

——— Continued, a Series of Papers on the Causes and Nature of. Todd (George). Lancet, vol. i, 1849, pp. 8, 200, 453, 690; vol. ii, pp. 229, 453, 658.

——— Atonic Continued, Clinical Lecture on. Walshe (W. H.) *Ibid.*, Feb. 24, 1849, p. 193.

——— Typhus and Typhoid: An attempt to determine the Question of their Identity or Non-identity, by an Analysis of the Symptoms, and of the Appearances found after Death in sixty-six fatal cases of Continued Fever, observed at the London Fever Hospital from January 1847 to February 1849. Jenner (William). Edin. Month. Journ., April, May, June, August, October, and Dec. 1849, vol. iii, N. S., pp. 663, 726, 816, 954, 1095, 1264; also Feb. and April 1850, vol. i, 3rd S., pp. 106 and 308.

——— Typhus, Typhoid, Relapsing, and Febricular, the Diseases commonly confounded under the name Continued Fever: illustrated by cases collected at the Bed-side. Jenner (William). Med. Times, 1849, vol. xx, pp. 401, 418, 456; and 1850, vol. xxi, pp. 15, 113, 135, 233, and 433.

——— Typhus or Ship-Fever, in America, Report on. Amer. Trans., 1849, vol. ii, p. 135.

——— Typhus, at Bellevue, New York. Reese (D. M.) Amer. Journ. of Med. Sc., Jan. 1850, vol. xix, N. S., p. 95.

——— Typhoid. Upshur (G. L.) Phil. Med. Ex., Oct. 1849, vol. v, N. S., p. 576.

——— Typhoid, Diagnosis of: Chemical and Physical Characters of the Stools considered as Aids to Diagnosis. Parkes (E. A.) Med. Times, June 1, 1850, vol. xxi, p. 395.

——— Typhoid, Account of an Epidemic of, which prevailed in Bath during Sept. and Oct. 1849. Davies (William). Prov. M. and S. Journ., Feb. 6, 1850, p. 60.

——— Cerebro-Spinal Typhus, or Meningitis, cases of. Sargent (Josh.) Amer. Journ. of Med. Sc., July 1849, vol. xviii, N. S., p. 35.

——————— occurring during the prevalence of Epidemic Catarrhal Fever. Scruggs (R. L.) Phil. Med. Ex., Jan. 1849, vol. v, N. S., p. 17.

——————— in America, Report on. Amer. Trans., 1849, vol. ii, p. 152.

——— Bilious, as it prevails in the Eastern portion of New Jersey, U.S. Fithian (J.) *Ibid.*, 1849, vol. ii, p. 203.

——— Yellow, in New Orleans, in 1848, Report on. *Ibid.*, 1849, vol. ii, p. 159.

Fever, Yellow, in Staten Island, in 1848, Report on. *Ibid.*, 1849, vol. ii, p. 162.
——— Yellow (supposed) in Natchez, Mississipi, U.S., in 1848, Repprt on. *Ibid.*, 1849, vol. ii, p. 164.
——— Intermittent, Observations upon. Harvey (William). This paper is reprinted from the MS. Memoirs of the Dublin Medico-Philosophical Society, vol. iii, p. 236. It was read at a meeting of that Society on the 1st of Aug. 1782. Dub. Quart. J., Nov. 1849, vol. viii, N. S., p. 455.
——— Intermittent and Remittent, Etiology of. Gayley (James F.) Amer. Journal of Med. Sc., Jan. 1849, vol. xvii, p. 53.
——— Miasmatic, and Pulmonary Consumption, alleged antagonism of. Boudin, Green (Horace), and Helfft. Edin. Med. and Surg. J., April 1849, vol. lxxi, p. 344.
——— Intermittent, on the use of Tartar Emetic in. Moore (Mr.) Med. Gaz., Sept. 11, 1849, vol. xliv, p. 445.
——— Intermittent, treated by Turpentine with Castor Oil. Ward (N.) Amer. Journ. of Med. Sc., Oct. 1849, vol. xviii, N. S., p. 548.
——— Infantile Remittent, case of, terminating in Hydrocephalus; Urea in Blood. Cormack (John Rose). Lond. Journ. of Med., Oct. 1849, vol. i, p. 920.
——— Remittent, Quinine in. Parrish (Dr.), Jewell (Dr. W.), Bell (Dr.), Jackson (Dr. S.) Phil. Med. Ex., Feb. 1850, vol. vi, N. S., p. 78.
——— Puerperal. See the chapter on Diseases Peculiar to Women.
Cholera, Review of Books and Pamphlets on. Lond. Journ. of Med., Jan., April, Dec. 1849, vol. i, pp. 72, 339, and 1115.
——— Analysis of Pamphlets on. Lancet, vol. ii, 1849, pp. 14, 94, and 149.
——— Review of Works on. Med. Gaz., Jan. 12, 1849, vol. xliii, p. 64.
——— Review of Books and Memoirs on. Edin. Med. and Surg. J., July 1849, vol. lxxii, p. 197.
——— Review of Memoirs on. Edin. Month. Journ., Jan. 1849, vol. iii, N. S., p. 469.
——— Review of Treatises on. Amer. Journ. of Med. Sc., Oct. 1849, vol. xviii, N. S., p. 437.
——— Progress of Asiatic. Graves (Robert J.) Dub. Quart. J., Feb. 1849, vol. vii, N. S., p. 1. There is a postscript to this paper at p. 242 of the same number.
——— Reports and Statistical Tables of, at the Hospital of St. Giles in the Fields in 1832. Pinckard (R.) Lond. Journ. of Med., April 1849, vol. i, p. 397. (Paper read at Medical and Chirur. Soc., with discussion.)
——— in London, from March 30th to Sept. 29th, 1849. Webster (John). *Ibid.*, Nov. 1849, vol. i, p. 992.
——— in the Metropolis in 1848-49, Statistics of. Smith (Benjamin). Med. Times, Nov. 3, 1849, vol. xx, p. 355.
——— Sketch of, as it broke out in Mr. Drouet's Establishment, Tooting. Bailey (J. G.) *Ibid.*, 1849, vol. xix, pp. 250 and 354.
——— among the Pauper Children at Tooting. Edin. Med. and Surg. J., April 1849, vol. lxxi, p. 310.
——— in Plymouth. Soltau (W. F.) Med. Gaz., 1850, vol. xlv, pp. 49, 368, 1018, 1060.
Cholera in Plymouth, Supplementary Statistics of. Hamilton (Dr. W.) *Ibid.*, Jan. 18, p. 103.
——— progress of, in Scotland. Edin. Month. Journ., Feb., March, May, June, July, August, 1849, vol. iii, N. S., pp. 564, 635, 777, 854, 940, and 1009.
——— Statistics of Hospital in Surgeons' Square, Edinburgh, from Oct. 28th, to Dec. 1848. Robertson (Wm.) *Ibid.*, Jan. 1849, vol. iii, N. S., p. 455.
——— Observations on, as it prevailed in the 13th Medical District of the City of Glasgow Parish. Adams (J. M.) *Ibid.*, Aug. and Sept. 1849, vol. iii, N. S., pp. 1012 and 1087.
——— Report of, in the Sixteenth District of the City of Glasgow, from Dec.

20, 1848, to Feb. 21, 1849. M'Etheran (John). *Ibid.*, Oct. 1849, vol. iii, N. S., p. 1165.

Cholera, Report on, in the 17th District of the City Parish of Glasgow, during Nov., Dec., Jan., Feb., and March, 1849. Adams (A.M.) Edin. Med. and Surg. J., Oct. 1849, vol. lxxii, p. 285.

——— Practical Observations on, as it appeared in Dumfries in 1832 and 1848. Grieve (James). Med. Times, 1849, vol. xix, pp. 584, 630, 668.

——— in the 47th Regiment, in Ireland, from 1832 to 1834. Saunders (G.) *Ibid.*, Jan. 20, 1849, vol. xix. p. 249.

——— in Russia in 1848. Mackenzie (Dr.) Med. Gaz., 1849, vol. xliii, pp. 499, 539, 587, 635.

——— Observations on, as it appeared in St. Petersburgh in 1848. Margulies (M.) Edin. Month. Journ., March 1849, vol. iii, N. S., p. 620.

——— Indian Village, Brief Notes on. Moore (Mr.) Med. Gaz., 1850, vol. xlv, pp. 534, 708, 840, 893, 982, 1069. (*To be continued.*)

——— appearance of in America, in Dec. 1848. Amer. Journ. of Med. Sc., Jan. 1849, vol. xvii, N. S., p. 263 ; also Amer. Trans., 1849, vol. ii, p. 173.

——— in New Orleans. Fenner (E. D.) *Ibid.*, April 1849, vol. xvii, N. S., p. 541.

——— in the Mississippi Valley, brief Account of the Origin, Progress, Symptoms, Mortality, and Treatment of. Shanks (L) *Ibid.*, July 1849, vol. xviii, N. S., p. 13.

——— in Philadelphia, New York, Boston, New Orleans, Missouri (St. Louis), and Cincinnati. *Ibid.*, Oct. 1849, vol. xviii, N. S., p. 555 *et seq.*

——— History of, at Philadelphia Almshouse, Blockley, U. S., in the summer of 1849. Stille (M.) and Mayer (E. R.) Phil. Med. Ex., Nov. 1849, vol. v, N. S., p. 650.

——— at Nashville, Tennessee, U. S. Buchanan (J.) Lond. Journ. of Med., Oct. 1848, vol. i, p. 953. From Boston Med. and Surg. Journ., June 6, 1849.

——— Case of, at Cape May, U. S. West (Francis). Phil. Med. Ex., Nov. 1849, vol. v, N. S., p. 641.

——— Cases of. Finley (Clement). *Ibid.*, July 1849, vol. v, N. S., p. 398.

——— Three Lectures on. Chambers (W. F.) Lancet, vol. i, 1849, pp. 137, 165, and 221 ; also Med. Gaz., 1849, vol. xliii, pp. 244, 288, and 325.

——— Clinical Lecture on. Budd (G.) Med. Times, Oct. 20, 1849, vol. xx, p. 315.

——— Lecture on. Laycock (Thomas). Med. Gaz., Sept. 7, 1849, vol. xliv, p. 397.

——— Remarks on. Hall (Wm.) Med. Times, Dec. 29, 1849, vol. xx, p. 501.

——— Contributions to the Pathology and Treatment of. Bird (James). Lond Journ. of Med., April, August, and Sept. 1849, vol. i, pp. 313, 715, and 829.

——— Pathology and Mode of Communication of. Snow (John) and others, *Ibid.*, Nov. 1849, vol. i, p. 1077.

——— Contagion of. Spooner (E. O.) Prov. M. and S. Journ., 1849, pp. 34, 62, and 91.

——— Pathological Anatomy of. Levy and Tholozan (MM.) *Ibid.*, Oct. 1849, vol. i, p. 929. From Gaz. Méd. de Paris, July, Aug., and Sept. 1849.

——— Pathological Anatomy of. Raikem (M.) *Ibid.*, August 1849, vol i, p. 755. From Gaz. Méd. de Paris, July 7, 1849.

——— Pathological Anatomy of. Gairdner (W. T.) Edin. Month. Journ., July 1849, vol. iii, N. S., p. 901. Abstract in Lond. Journ. of Med. Aug. 1849, vol. i, p. 749.

——— Condition of Mucous Membrane of Intestinal Canal in persons dying of. Report of the Committee of College of Physicians of Philadelphia. Amer. Journ. of Med. Sc., April 1850, vol. xix, N. S., p. 542.

——— Pathological Condition of Blood in. Garrod (A. B.) Lond. Journ. of Med., May 1849, vol. i, p. 409.

Cholera, Analyses of Blood in. Robertson (Wm.) Edin. Month. Journ., May 1849, vol. iii, N. S., p. 765. Abs. in Lond. Journ. of Med., Aug. 1849, vol. i, p. 785.

——— Intestinal Discharges in. Parkes (E. A.) Lond. Journ. of Med., Feb. 1849, vol. i, p. 134.

——— Bile in Stools of, and in first Urine after Algide Stage. Parkes (E. A.) Edin. Month. Journ., Oct. 1849, vol. iii, N. S., p. 1127.

——— Vibriones in Intestinal Discharges, and Muscular Fibre of a patient labouring under. Burnett (Waldo M.) Amer. Journ. of Med. Sc., July 1849, vol. xviii, N. S., p. 283 (Abs. in Lond. Journ. of Med., Oct. 1849, vol i, p. 950); and Jan. 1850, vol. xix, N. S., p. 261.

——— Observations on Urine in. Begbie (James W.) Edin. Month. Journ., Nov. 1849, vol. iii, N. S., p. 1207.

——— Documents on the Hypothesis which ascribes it to the presence of Fungi. Edin. Med. and Surg. J., Jan. 1850, vol. lxxiii, p. 81. A full account of the views of Cowdell, Brittan, Williams (Thomas), Parkes (Nicholas), Basham, Budd (W.), Busk; and the Report of the College of Physicians.

——— Cryptogamic Theory of. Lond. Journ. of Med., Nov. 1849, vol. i, p. 1048. (Digest of views of Brittan, Swayne, Cowdell, Alison (S. S.), and Mitchell.)

——— Treatment of in the London Hospitals. Lancet, August 11, 1849, p. 154.

——— Treatment of in the Parisian Hospitals. Lond. Journ. of Med., June and July 1849, vol. i, pp. 569 and 667. From Gaz. Méd. de Paris, May 1849.

——— Treatment of. Pigne (J. B.) Amer. Journ. of Med. Sc., Oct. 1849, vol. xviii, N. S., p. 565. From New Orleans Med. and Surg. Journ. July 1849.

——— Treatment of by small and repeated doses of Calomel. Ayre (Joseph) Lancet, vol. ii, 1849, pp. 145, 217, 327, 379, 408, 491.

——— Calomel in Treatment of. Lond. Journ. of Med., Oct. 1849, vol. i, p. 956. Critical Digest of papers by Dr. Ayre and others.

——— Tables illustrating Effects of Blood-letting in Treatment of. Bell (G. H.) Edin. Med. and Surg. J., Jan. 1849, vol. lxxi, p. 146.

——— Treatment of by Quinine and Iron. Strange (W.) Prov. M. and S. Journ., Nov. 28, 1849, p. 652; and Bell (C. W.) *Ibid.*, Dec. 26, 1849, p. 706.

——— Treatment of by the internal use of benumbing Cold. Arnott (James). Med. Gaz., Aug. 31, 1849, vol. xliv, p. 373.

——— Acetone or wood-naphtha in. Child (H. T.) Phil. Med. Ex., Aug. 1849, vol. v, N. S., p. 457.

——— Cases of, treated successfully with Chloroform. Bournonville (Anthony.) *Ibid.*, Aug. 1849, vol. v, N. S., p. 459.

——— Sedative plan of treatment of. Adkins (J. L.) *Ibid.*, Sept. 1849, vol. v, N. S., p. 525.

——— Diet in. Handy (W. R.) *Ibid.*, Oct. 1849, vol. v, N. S., p. 585.

——— Cramps, Bandaging in. Kennedy (Evory). Dub. Quart. J., Nov. 1849, vol. viii, N. S., p. 451.

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CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

ANATOMY AND PHYSIOLOGY.

DISCOVERY OF CASEIN IN THE BLOOD.

The following is a translation of a highly interesting paper by Dr. Panum, published in the *Bibliothek for Læger* for January 1850.

Dr. Panum's Memoir. On the 14th of last October, on pouring some blood-serum into a glass of water, I found with surprise that the mixture became whitish and opaque, like diluted milk and water. The same phenomenon occurred, when I used distilled water; hence it could not depend on the presence of saline matters. The opacity began to appear, when there were about four parts of water to one of serum; and it gradually increased till ten parts of water had been added. After this, the liquid remained of nearly the same colour, notwithstanding the gradual addition of ten other parts of water. On allowing the opaque liquid to stand for twenty-four hours, a pretty copious white sediment was precipitated, which could be collected on good filtering paper, while the fluid portion passed through quite clear. A very small quantity of acetic acid dissolved the precipitate, as did also the caustic alkalies and their carbonates: it was insoluble in water, cold alcohol, and ether. Ferrocyanide of potassium threw down a precipitate from the solution in acetic acid; this precipitate, when collected in a filter and washed with distilled water, soon became a transparent, yellowish, very tough, and glutinous mass; and, by further drying, it became hard, brittle, and glistening on the external surface, as well as on that of a broken portion. On being triturated, it produced a white powder: when burnt on a platina plate, it was dissipated, with a strong smell of burnt horn, leaving only a small quantity of incombustible salts. Under the microscope, the sediment appeared as an amorphous granular mass, like albumen coagulated by alcohol. The clear liquid which remained, had an alkaline reaction, and contained a quantity of albumen, which was precipitated by boiling. It was, therefore, evident, that the sediment thrown down on adding water to the serum—being insoluble in water, ether, and cold alcohol, and being precipitated from its solution in acetic acid by ferrocyanide of potassium—possessed the characters of a coagulated protein-compound.

The patient, whose serum manifested the above-mentioned phenomena, was suffering from epiglottitis, and shortly after had the operation of tracheotomy performed. His urine contained, for a short period, a pretty considerable quantity of albumen; the effect, probably, of a large blister, which was applied to his neck. As I had previously, in several patients labouring under Bright's disease, found the serum of very low specific gravity, and opaque from the presence of the so-called "molecular fibrin of Simon and Scherer", I suspected that opacity of the serum and water, and the molecular fibrin, might have one and the same origin. It was indeed probable, that this opacity in the serum, from molecular fibrin, arose from an unusual attenuation. It was also probable, that this material, which sometimes appeared distinctly in the blood, and at others was manifested on the addition of water, might bear a certain relation to the phenomena of Bright's disease. The alteration in the renal secretion might produce a simple deposition of this material in the urinary passages, and hence give rise to the degeneration of the kidneys peculiar to the disease.

A great number of observations soon convinced me, that the grey colour, produced by the mixture of serum with water, far from being a peculiarity attendant on Bright's disease, was observed in the numerous cases in which impoverishment of the blood was conspicuous ; and *that in no case could serum, when mixed with about ten parts of water, be observed, either immediately, or after being exposed to the air for some hours, not to be rendered opaque, by the separation of a protein-compound,* which in all respects behaved as in the case above-mentioned.

In some instances, when the opacity did not immediately appear on mixing serum with distilled water, it became perceptible when the mixture had stood for some time, (from a few hours to a day), exposed to the free access of air ; and in all instances, where the opacity appeared at once, it increased under the influence of the atmosphere, and more especially when I breathed air from the lungs into the liquid. In order to determine which of the constituents of the atmosphere, oxygen or carbonic acid, produced the precipitate in so remarkable a manner, I constructed an apparatus, by which I could subject the serum to the action of a current of air deprived of its carbonic acid by means of lime water ; and, by means of another apparatus, I subjected it to the action of carbonic acid, procured from chalk and hydrochloric acid, and washed with water. The serum, which was subjected to the action of air deprived of its carbonic acid, underwent no change, and gave only a slight greyish tint on being mixed with ten parts of water, in the same manner as normal serum, hermetically closed immediately after a venesection. On the other hand, the serum through which I had transmitted a stream of carbonic acid, became, on being mixed with water in the same proportions, perfectly opaque, almost like milk, and quickly deposited, on standing, a very copious sediment, which was acted on by re-agents in the same manner as has been already mentioned. On carefully adding acetic acid to the diluted serum, a cloudy sediment was formed, which disappeared entirely when the liquid was shaken, and was not reproduced on adding more acid. I then made use of acetic acid diluted with 100 parts of water. On adding this in drops, a white precipitate was formed, which rendered the diluted serum perfectly opaque, and almost as white as milk. This precipitate increased, until a certain number of drops of the diluted acid had been used. On my desisting from the addition of acetic acid, the precipitate collected in flocks, and sank to the bottom of the vessel, in the form of a thick white sediment. When I continued to add acetic acid beyond the point at which the opacity reached its maximum, it diminished, and entirely disappeared on adding more acid. It was then evident, that a material was contained in the serum, which was precipitated by acetic acid, but was easily redissolved in a very small excess. I have found this precipitate to be produced by dilute acetic acid in every case which I have examined, whether the simple addition of water produced a sediment or not. Independently of various diseases of more or less importance—pneumonia, pleurisy, bronchitis, chronic heart-disease, morbus Brightii, delirium tremens, phthisis, gastric fever, lumbago, pleurodynia, hyperæmia of the brain, etc.—I have found a copious deposit formed in the blood-serum of comparatively healthy persons of all ages, who were plethoric, and accustomed to be bled ; not one negative result occurred in upwards of forty experiments. The white sediment furnished by an ounce of serum, formed a layer two lines in thickness, at the bottom of a cylindrical glass two-and-a-half inches in diameter. Every doubt as to the physiological, as well as the pathological, constancy and importance of the precipitated material, was removed by its being found in the blood-serum of calves, oxen, sheep, and swine. This gave, after dilution with water, a very copious precipitate with highly diluted acetic acid, as well as a perceptible opacity on simple dilution with water.

The precipitate, formed by the addition of dilute acetic acid to diluted serum, could be very easily collected on a filter, while the fluid portion passed

through perfectly clear. The latter had a neutral reaction, when acetic acid was carefully added ; and on being boiled it threw down albumen, in greater quantity than before the addition of acetic acid, and the removal of the material collected on the filter. This first became, on being dried, diaphanous and glutinous, then diminished in volume, and became glittering, hard, and brittle, so that it could be easily reduced to a white powder. Sometimes, instead of being transparent when dried, it assumed a fallow or a green colour. This difference of colour seemed to depend rather on accidental circumstances than on any essential difference ; for I found in some cases, that one portion of the same serum became yellow or brown on drying, while another assumed a green colour. Future observations may further elucidate this point.

With the exception of this occasional variation of colour, the protein compound, precipitated by the addition of water, was acted on by re-agents in the same manner as that produced by acetic acid. Both were easily soluble in an excess of acetic, or of other strong acids, and were precipitated from this solution by ferrocyanide of potassium, but not by ammonia, potash, or soda. Both were easily soluble by the caustic alkalies and their carbonates, as well as by solutions of phosphate of soda, sulphate of magnesia, sal ammoniac, common salt, chlorides of calcium and barium, and other salts. When the solution in phosphate of soda was diluted with water, acetic acid, in either case, again produced a precipitate, soluble in an excess of the acid. Both precipitates were insoluble in ether, cold alcohol, and water. This uniformity of behaviour with re-agents, seems to establish the identity of the precipitate produced by water, with that afterwards obtained by adding very dilute acetic acid. Pure undiluted serum gave, at first, no precipitate when treated with acetic acid ; but I have since found it to be produced, and to be soluble in an excess of the acid.

When the white of an egg is poured into a glass of water, a quantity of matter is separated in the form of filaments and membranes, sometimes in the form of molecules, so as to render the liquid opaque : it might hence be imagined, that this substance is identical with that which is furnished from serum. A careful investigation has convinced me that the two are very different. The filaments and membranes, which appear on pouring the albumen of an egg into water, bear a perfect resemblance, under the microscope, to fibrillated fibrin. They swell out and become transparent on being digested with acetic acid, but are dissolved with great difficulty, even in the concentrated acid,—in these respects resembling fibrin. That portion which is dissolved by acetic acid, is precipitated by ferrocyanide of potassium. No precipitate is formed, or at least slowly and imperfectly, by phosphate of soda and other medicinal salts. The molecular precipitate appears only when the eggs have been kept for some time, and increases with their age, while the quantity of filamentous and membranous matter decreases. It does not disappear on the addition of acetic acid or its salts, and only after a long time when treated with alkalies.

The question now arises, whether we can deduce any more accurate conclusions as to the chemical nature of this substance, beyond what we have already shewn,—that it is a *protein-compound, insoluble in water?* Fibrin has hitherto been the only constituent of the blood, which could be asserted with certainty, to possess the power of passing from a soluble to an insoluble state, whether in or out of the body. It has hence necessarily arisen, that an unlimited amount of physiological and pathological importance has been ascribed to fibrin. The albumen of serum can be brought, when out of the organism, to pass from the soluble to the insoluble state by various methods, such as heat, alcohol, and most acids, provided they act in a sufficiently concentrated form. But the circumstances, under which albumen is coagulated out of the body, can scarcely operate within it. The substance which has been described, is precipitated by simple dilution with water, and by acetic acid so highly diluted, that it may easily be imagined capable of being formed

in the body itself. The manner in which fibrin coagulates in the form of filaments, the circumstances under which it passes from the soluble to the insoluble condition, and finally, the different manner in which it is affected by re-agents, separate it so essentially from the substance which is being treated of, that the latter will have, in future researches, to be described as entirely distinct. I think it necessary to insist on this, on account of the confusion which has arisen from the description of many different things under the term fibrin: and this has become so important, that most have mistaken the primitive signification of the word fibrin, which, on physiological and pathological grounds, there is good reason for retaining, while there is no cause for rejecting it on purely chemical grounds.

This protein-compound is essentially distinguished from the albumen of serum, by being precipitated by water and acetic acid, which cannot coagulate albumen. It can scarcely be the product of a transformation of albumen: for after the substance precipitated by water and acetic acid has been removed, the liquid still contains a large quantity of albumen: indeed, this appears more plentiful on boiling, than before the addition of acetic acid and the removal of the precipitated material. Besides, after this substance has been separated by filtration, water and acetic acid may be added in any proportions, without producing more sediment; but if the material were derived from the action of water and acetic acid on the albumen of the serum, there would be no reason why the transmutation should cease, after a certain quantity of albumen had been changed into this insoluble substance.

There can then be no doubt, *that our protein-compound is distinct from albumen and fibrin, and exists in the serum in a state of solution with the salts and alkalies, but is separated when the saline matter is diluted, and the alkali united with acetic acid.* This can only be asserted of deutoxide of protein, albuminate of soda, or casein.

With regard to the deutoxide of protein, almost the only circumstance with respect to its chemical reaction which seems to have been noticed, is its insolubility in water. It would therefore seem premature to assert of an unknown protein-compound, that it is not deutoxide of protein. But the difficulty will be removed, when we remember that oxygen produced no effect on the solution of serum in water, while carbonic acid caused a copious precipitate. Albuminate of soda is precipitated, as Scherer and Lehmann have shewn, by acetic acid, but is soluble with difficulty in an excess of acid. This establishes at once a marked distinction between it and our protein-compound. It hence appears, that it can be nothing else than Casein, on the chemical properties of which, new light has been thrown by the researches of Scherer (*Annalen der Chemie und Pharmacie*, Bd. xl), and more lately by those of Rothleder (*Ibid.*, Bd. xl, p. 253), carried on in Liebig's laboratory. Their investigations have shewn, that *casein is always insoluble in water;* and that the so-called soluble casein is a combination of casein with potash, soda, or lime, and that hence the coagulation of the soluble casein by acids, is merely the effect of the union of the acid with the potash, soda, or lime, which was in combination with the casein. Direct experiments on casein, procured from milk by treating it with ether and alcohol, have further convinced me that it is perfectly and easily soluble by phosphate of soda. The chlorine salts, on the other hand, dissolved it with difficulty and imperfectly: this was naturally enough explained by the fact, that the casein which was employed had been treated with ether and alcohol, and perfectly dried,—circumstances sufficient to render all protein-compounds much more difficult of solution, than when they are first precipitated.

We may thus, at least provisionally, regard the substance as casein, as its behaviour with acetic acid hitherto seems characteristic of that protein-compound. The diagnosis has depended only on this, in those instances in which casein has been *occasionally* detected in the blood. Gmelin was the first, who thus found a small amount of casein in the blood, in some rare

cases. Marchand next found it in some instances, both males and females. Finally, Hünefeldt seems to have discovered it in cases in which the secretion of milk was arrested ; but he does not state whether the precipitate formed by adding acetic acid was soluble in an excess, so that no certain conclusion can be drawn from his observations.

The reason why the constant presence of casein in the blood has hitherto escaped the notice of observers, appears from the circumstances already mentioned. Only when the amount of casein in the serum is very great, or the quantity of salts, especially phosphate of soda, is very small, can the casein be precipitated from undiluted serum by acetic acid. But when the proportion of saline matters to the casein is not so small, they retain the casein in the solution, even when it is separated by acetic acid from its combination with soda. It is only when the solvent power of the salts is weakened by dilution with water, that acetic acid can precipitate casein in any quantity ; and even then the phenomenon escapes notice, unless very dilute acid be employed, otherwise the precipitated casein is re-dissolved in the excess of acid. When there is more casein in the serum than is combined with an alkali, so that some is held in solution by the salts in the serum, a portion is at once precipitated on the simple addition of water, and appears first as an opacity, and soon as a sediment. When it is not free, but united with an alkali, simple dilution with water produces no precipitate, until dilute acetic acid is added, which, uniting with the soda, precipitates the casein as a substance insoluble in water.

The great importance which a material with these properties may possess, and very probably actually has, with regard to the healthy or diseased organism, render necessary a far more careful and extended series of researches on its chemical relations. Thus it will be of the first importance to discover a convenient method for performing its quantitative analysis, which has hitherto only been accomplished by an extreme dilution of the serum and by the very careful addition of a highly diluted acid.[1] It will also be important to determine whether carbonic acid alone can separate casein from its combination with soda. But the interest of the subject appears to me so great, that I have been led to publish my observations, imperfect as they are. It is, however, a point of the greatest interest with regard to physiology and pathology, that this material, which occurs in the blood constantly and in notable quantity, can be acted on by re-agents, which are constantly in operation within the organism ; and that, after having been precipitated by them, it can be re-dissolved by many different salts.

A number of important questions here arise : but I can only refer to a few of them.

The relation which this substance may bear to the processes of nutrition and cell-development, in health and disease, can scarcely yet be accurately determined. There are, however, some points which tend to show that this relation must be very important. The following are some of them : (1.) The method in which cell-development is generally performed, commencing, as is well known, by the formation of molecules in the clear mother-liquor : (2.) The facility with which the casein is precipitated from the clear serum in the form of molecules, by re-agents which are constantly in action within the organism—a peculiarity which is possessed by no other of the known constituents of the blood : (3.) The agreement in chemical properties between casein and the cell-membranes of the blood-corpuscles, and of the globules of milk and pus ; which agreement is so great, that several chemists have described these cell-membranes as a modification of casein.[1] Finally, (4.) The

[1] By this process I analysed the blood of a puerperal woman, who had a quantity of milk in her breasts, but did not suckle her child. Two days after delivery, 1000 parts of serum gave 9·9 *parts of dry Casein*, and 53·7 of dry albumen.

remarkable faculty which casein posesses of inducing transmutation in organic substances may lead to a well-grounded suspicion, that it acts in the same way within the limits of the organism.

In the next place, it will be very interesting to point out the relative quantity of casein in the blood during lactation ; and it will likewise be very important to point out the proportion which it bears to the other constituents of the blood, and to the ingesta.

In a pathological point of view, it will be highly important to observe what relation the amorphous molecular mass, which is found in notable quantity in nearly all pathological exudations and deposits, bears to this substance, which may be very well imagined to play a principal part in a great number of organic diseases. Perhaps also, the solvent and antiphlogistic action of saline medicines in many of these diseases will find an easy explanation, in their faculty of dissolving the deposits of this morbid material. In the meantime, it is not to *hypotheses*, but to new *researches*, that we are to look for a solution of the many important questions connected with this subject.

The presence of a material, precipitated from serum by water and acetic acid under various circumstances, seems to have been recognized by Liebig, Zimmermann, Henle, and Vogel ; but none of them appear to have an idea of its real nature.

ANOMALIES IN THE MUSCLES OF THE ARM.

The following case is recorded by Dr. Lente, Resident Surgeon to the New York Hospital :—

P. C., a native of Ireland, admitted into the New York Hospital with diarrhœa, presented the following curious anatomical anomalies. In both upper extremities, the brachial and radial arteries are superficial, being only covered by the integument, and looking much like distended superficial veins. The bifurcation of the brachial into the radial and ulnar, is at the usual situation. The ulnar dips under the superficial flexors and pronators of the fore-arm, as usual ; while the radial, following its ordinary direction, is superficial, being, like the brachial, only covered by the common integument. In the left upper extremity, there appears to be a total absence of the biceps flexor cubiti muscle ; there being only the brachialis anticus, which occupies its usual situation, between the integument and bone, and is not unusually developed. Flexion of the fore-arm upon the arm is performed mainly by the supinator longus and extensor carpi radialis muscles. When the man attempts to flex the fore-arm, with a heavy weight in the hand, the former muscle appears like a tense cord stretched from the commencement of its origin in the arm, to the middle of the fore-arm, there being no angle at the elbow in front. The tendon of the left brachialis anticus appears to be inserted lower down on the ulna than usual, and, of course, to assist more in flexion of the fore-arm. In the right arm the biceps exists of the usual size. In both extremities, when the fore-arm is extended upon the arm, they form a continuous line with each other; there being no external lateral angle at the elbow-joint, as there should be in a well-conformed extremity. No arterial or muscular anomalies are discoverable in the lower extremities.

Anomalies in the muscular system are comparatively uncommon, and, when met with, are usually "confined to their symmetrical absence." The above case presents an exception to this rule. A case is related, as one of great rarity, by Mr. Lucas, lecturer on anatomy in London, in which one palmaris longus was absent, and one present ; one pyramidalis (which is not very uncommon), and one psoas parvus. [*New York Journal of Medicine*, May 1850.]

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[1] Simon refers the globulin, forming the envelopes of the blood corpuscles, to Casein, and plainly calls it "Blood-casein." It is, however, essentially different from that which we are describing as existing in the serum : and it would therefore be preferable to restrict to it the term globulin.

PRACTICE OF MEDICINE AND PATHOLOGY.

IDIOPATHIC ENLARGEMENT OF THE SPLEEN; UNUSUAL NUMBER OF WHITE CORPUSCLES IN THE BLOOD.

The *Medical Times* for June 15, 1850, contains a CLINICAL LECTURE by Dr. PARKES, on a case which presented an interesting pathological state of the Blood; viz., the occurrence of an unusual number of White Corpuscles, in connexion with Enlargement of the Spleen. We reprint Dr. Parkes' lecture with very slight abridgment; agreeing with him, that "it is by the observation of such cases as these, in which the ordinary operations of the body seem to be reversed or suspended, that pathology tends to throw such light on the healthy processes, the nature of which is often best detected by the study of the deviations from them."

CASE: J. S., aged 69, admitted December 13, 1849; an Irishwoman, but has lived in London sixteen years. A fruitseller in the streets; much exposed to cold and wet; had never drunk spirits nor smoked; had always lived well; had taken meat every day, except on Fridays, and a little beer. Appeared never to have had any serious illness; never had ague, or anything which seems to imply any kind of malarious disease. Towards the end of 1848 was in St. Bartholomew's Hospital for swelled feet and legs, but was discharged well in a fortnight. Shortly after her discharge, she began to feel severe pain low down in the left side, and one day, on examining the side, she found a considerable swelling below the false ribs on that side. She had no shivering, sickness, or fever. She then, January 1849, entered University College Hospital, under Dr. Williams. At this time she was thin, weak, with a yellow skin, but clear conjunctivæ; and with a large and tender swelling, extending from the margin of the left false ribs to the crest of the ilium. For this she was treated with blisters, iodide of potassium, and morphia to relieve the pain, which appears to have been severe. The urine at this time was non-albuminous; at first alkaline and with phosphates, afterwards acid, and with deposits of uric acid and lithates. She had, on several occasions, morning sickness, and vomited a little blood. She left the hospital at the end of February, feeling stronger and easier, but with the tumour undiminished in size. She continued at her occupation till November, when she was knocked down by a cart, the wheel of which, according to her account, passed over the pelvis. She suffered severe pain in the abdomen from this accident, and was unable to leave her bed for four weeks. When she was able to walk, she became an out-patient of Dr. Jenner's, who, on discovering the nature of her complaint, sent her into the hospital. On admission, on the 13th December, 1849, she was thin and shrivelled, without œdema or enlargement of veins; there was a peculiar dusky, yellowish-brown colour of the skin, most evident on the trunk, and less marked on the face and extremities; the conjunctivæ were clear; there were no head symptoms; and no pulmonary symptoms, with the exception of a little dry friction low down on the left side; there was a feebly acting heart, in its right position, and without bruit; the pulse was 72, regular. A large tumour, evidently an enlarged spleen, filled the left side of the abdomen, descending from the lower border of the seventh rib, nearly to the ilium, bulging into the posterior left lumbar region when she lay on her back, and reaching nearly to the umbilicus on the right; falling over considerably to the right of the umbilicus when she lay on the right side; with a prominent, ridged, smooth lower border; very hard throughout, and tender; the extreme length of the dull percussion note was 8 inches; no splenic murmur was ever audible. The height of the hepatic dulness (vertical line from nipple) was $4\frac{3}{8}$ inches; the lower edge was $1\frac{3}{4}$ inch below the

false ribs ; to the left of the middle line, the hepatic dulness confounded itself with the splenic, that is to say, with the dulness of the tumour. There was no fluid in the peritonæum, no nausea ; the appetite was good, the tongue clean ; there were no intestinal or uterine symptoms. She had had no hæmorrhage, except a little hæmatesis, apparently, when she was in the hospital previously. During the patient's stay in hospital, she remained nearly in the same condition. Occasionally she suffered from severe frontal headaches ; she also had, on several occasions, sharp stabbing pains in the abdomen, over the spleen and liver, for which leeches were applied, the bleeding from which was profuse and not very easily arrested. On four or five occasions, also, she had moderate shivering, followed by heat and sweating ; these attacks were not very regular, seemed to observe no certain times, and were separated from each other by long intervals. On the 27th February, according to her own account, she passed a pint of blood with a stool ; but this, and another stool passed subsequently, were thrown away accidentally ; the next stools were free from blood. With this exception, she had no bleeding from any part of the body, and none into the substance of the skin. On the 17th of March, the patient left the hospital, nearly in the same state as on admission.

Examination of the blood. The blood was examined microscopically many times, a drop of blood being taken from the end of the finger for this purpose ; the appearances noted were always the same. When the drop was put under the microscope, the red particles, as in health, ran together in the usual time and formed rouleaux, and presented no appreciable deviation from the healthy standard. But interspersed among the meshes formed by the rouleaux, were an immense number of pale corpuscles. On many occasions, when examined with a power of 350 diameters, there were at least from 240 to 300 of these corpuscles in the field at once : at least 60 were counted in a quarter of the field on one occasion, and 60 in a sixth of the field on another ; and these were not all. At other times they were rather fewer in number, perhaps from 100 to 120 in the field. They were very variable in dimensions, ranging from a size three or four times as large as, to a size hardly larger than, a red particle. The majority, however, were large. They differed considerably in transparency, some being very opaque, comparatively dark-coloured, and slightly granular on the surface ; others were more transparent and smoother. As a general rule, the larger ones were darker and more granular-looking ; the smaller more transparent. They were round or slightly oval ; some few were indented on the side. Nuclei could not be seen in the larger darker cells without re-agents ; but in some, there appeared to be an aggregation or collection of the granular contents at one particular point, which was generally at the side. In the transparent cells, nuclei were very indistinctly seen. Acetic acid dissolved the opaque contents, made the cell-wall transparent, and in every case brought out nuclei. The nuclei, which were small for the most part, were very well defined, with dark borders, slightly oval, were seated generally eccentrically, but sometimes towards the centre, and varied in number from one, or more usually two, to four or five. Often there was a single nucleus of a horse-shoe or reniform shape, deeply indented, as if it were about to cleave into four or five smaller nuclei ; in other cases, there was a crescent-shaped nucleus, with no apparent indentations or divisions. In many cases, if a reniform or crescent-shaped nucleus, with the deep indentations, had separated into smaller parts, each separate part would have accurately corresponded in size and appearance with the smaller separate nuclei, which were seen in other cells. In some cases, the small oval nuclei were crowded together eccentrically, so as to make the cell look very much like some pus cells. In addition to these cells, Dr. Jenner noticed some cells with large central nucleolated nuclei, which did not bear nearly so much resemblance

to ordinary white corpuscles, as the more numerous cells which I have just described to you. I also noticed, on one occasion, some very small, not very well defined white corpuscles, smaller than red particles.

These white corpuscles could be obtained in various ways; they were seen quite readily by placing at once a drop of blood under the microscope; also by heating the blood and separating the fibrine: the heavy red particles subsided to the bottom of the vessel, while above them, and below a layer of perfectly clear serum, floated a thick white layer, composed entirely of white corpuscles. Finally, by allowing the blood to coagulate in a small evaporating basin, the surface of the clot became quite white in the course of a few minutes; and on examination, this was found to depend on the entanglement of a vast number of pale corpuscles in a most delicate web of fibrine. When the blood was drawn into a long narrow vessel, or allowed to coagulate in a flat-bleeding basin, it did not, however, exhibit this phenomenon, or show any disposition to buff or cup. These corpuscles were carefully compared with the pale corpuscles, seen in healthy blood; and with the exception of their much greater numbers and larger size, I could discern no difference.

The other of the physical characters of the blood were as follows: When drawn from a vein, the blood coagulated as rapidly as usual; it formed a clot which was firm, but rather voluminous; in some forms of vessels, the pale corpuscles appeared at the surface of the clot a few minutes after coagulation. In other cases they did not. The serum was separated in good quantity, had a light greenish tint, and was perfectly transparent.

The venous blood was analysed on two occasions. First, on the 20th Dec., the blood being taken three hours after food. The fibrine having been separated by beating, was washed, boiled in alcohol, and then dried and weighed; the red particles were estimated by subtracting the weight of the fibrine and the solids of the serum in 1000 of blood from the weight of the whole solids in 1000 of blood; the coagulable matters of serum (albumen) were obtained by coagulating the serum, washing with boiling alcohol and water, drying and weighing; the salts of the serum, by evaporating the washings, and burning off the organic matter; and the incoagulable organic matters of serum were estimated, by deducting the weight of the albumen and salts from the weight of the whole solids of the serum. I shall point out to you directly, that this method, which, like all other methods, is defective, was especially so in the present analysis.

The composition of the blood in 1000 parts was then as follows:—

Fibrine (with probably adherent white corpuscles)	7·08
Red particles, with a number of white corpuscles which could not be separated	101·63
Coagulable organic matters of serum	63·03
Incoagulable	3·08
Soluble salts of the serum	8·63
Insoluble salts of the serum	·48
Water	816·07
	1000·00

The composition of the serum was as follows. The reaction was strongly alkaline:—

Coagulable organic matters	70·71
Incoagulable	3·46
Soluble salts	9·68
Insoluble (obtained by incinerating the dried albumen) ...	·55
Water	915·6
	1000·0

A small portion of serum was examined for uric acid in the ingenious

method devised by Dr. Garrod, viz., by the addition of a little acetic acid to a portion of serum in a watch-glass, at the bottom of which lies a fine hair. No crystals of uric acid could, however, be perceived.

On the 15th of February, the patient was bled again three hours after food; the fibrine was estimated by washing the clot. The composition was as follows:

Fibrine (with probably adherent white corpuscles)	4·75
Red particles (with undetermined white corpuscles) ...	97·73
Organic solids of serum	69·27
Inorganic solids of serum	8·25
Water	819·8
	1000·00

In the first analysis, the solids are in rather higher proportion (183·93 to 180·2), the fibrine rather in excess (7·08 to 4·75), the red particles in somewhat greater abundance (101·63 to 97·73), the salts are nearly the same, or in slight excess (9·11 to 8·25). But the agreement between the analyses is very considerable. The special fallacies of the analyses were these; although I did not microscopically examine the fibrine, it yet seemed likely that its apparent great abundance might have been in part owing to adherent white particles; also many of these particles were evidently mixed up with the red particles, as was proved by the thick white layer above the heavier red particles in the defibrinated blood, and I could devise no means of separating them. I could, indeed, have drawn off the white particles with a pipette from the red layer below, but then I could not free them from the serum, and therefore could not in any way estimate them. The proportions, therefore, of fibrine and of red particles, as given in the analyses, are unduly high, although it is difficult to say to what extent this is so. These inferences may, however, be safely drawn; viz., 1, that the blood was poor in solids; 2, that it was not deficient in fibrine; 3, that it was poor in red particles; 4, that it was very rich in white particles; 5, that the albumen was at nearly the natural standard, and the incoagulable matter of serum rather small in amount; 6, that the serum was rather more plentifully supplied than usual with soluble salts.

Examination of the Urine. The condition of the urine was carefully noted every day, and the following was the usual state:—It was generally copious; sixty, eighty, and even a hundred ounces being often measured in the twenty-four hours; and, in addition, there was generally some passed in the closet. It was generally acid, rarely neutral, of pale amber colour, with deposits of pale lithates, and incidentally of phosphates, and now and then of oxalate of lime; it contained albumen, in very variable quantity, a small quantity of oil-globules on two occasions, and once gave an indication of bile.

I had only time to make one chemical examination of it. From the 25th to the 26th of December, the urine of twenty-four hours was most carefully collected; it measured 90 oz. It was nearly colourless, with a neutral reaction, and a deposit of pale lithates perfectly soluble by heat. The specific gravity (by bottle) was 1026·1 (temp. about 45° Fahr). It gave no tint with nitric acid, but threw down albumen by heat and nitric acid. The urea was estimated as nitrate (48·93 per cent.) after the albumen was separated; the other ingredients in the usual way. The composition in 1000 parts was as follows:—

Urea	10·57
Uric acid	·75
Albumen	·2·
Extractives	12·18
Soluble salts, of which about 4·56 was phosphate of soda ...	10·07
Phosphate of lime and magnesia	·59
Water	963·84
	1000·00

We also endeavoured to determine the diurnal changes of the urine; but the examinations did not disclose any very striking points. It is interesting, in connexion with the lowered amount of red blood particles, to observe, that the urine was, throughout, deficient in colouring matter, as indicated by the continual appearance of *white* lithates; it was also too copious; the albumen varied in amount on different days and at different periods of the same day very considerably; it was never associated with casts of tubes or renal epithelium, and did not appear to imply true Bright's disease. No remarkable features were observed in the perspiration, stools, or saliva.

Remarks. The condition of the spleen, in cases similar to the one under consideration, has not been very accurately determined. After death, the organ is found large, very hard, dark-coloured on the surface, with a mottled section, which seems frequently to be caused by fibrinous exudation, thrown out into the interstices of the organ. Sometimes, as noticed by Virchow, there are large fibrinous masses.

There are various interesting points arising from the consideration of this case, to which I must now shortly allude.

1. That the simultaneous occurrence of an extraordinary number of colourless cells in the blood, and of a great enlargement of the spleen (not consequent on ague, and probably special in its nature), is something more than a mere coincidence, appears certain, from the number of times that it has been observed. Virchow has assembled the majority of cases hitherto recorded, and has added some himself; altogether, he has collected eleven. We may add to these, four other cases,[1] which are not included in this list, and, with the present case, the number is raised to sixteen. Now, although the white corpuscles of the blood are liable to very great variation in number, and, although their changes are very imperfectly known, it yet would seem but fair to infer, that when two rather uncommon phenomena, (viz., the immense number of cells in the blood, and idiopathic enlargement of the spleen), occur together in sixteen cases, and either phenomenon separately, has been only once noted, that there is some intimate connexion between them. Yet mere congestion and hypertrophy of the spleen will not cause increase of white corpuscles, as is proved by a case recorded by Vogel (*Canst. und Eisenm. Jahresb.* 1849, p. 11).[2]

2. It is probable, also, that of these two phenomena, the enlargement of the spleen is the anterior, and stands more or less closely in the relation of cause to the other condition. At least, there is one argument for this view. Admitting that there is some causal relation, it might be supposed, *à priori*, that the spleen, by its change, might give rise to the development of the pale corpuscles, or that the pale corpuscles, formed in some unknown way, might occasion the enlargement of the spleen. But an interesting observation, made by Virchow, seems conclusive against this last supposition; for he has noticed (*Archiv.* 1849, p. 567), that in a case in which there was an extraordinary hypertrophy of the lymphatic glands, both internal and on the extremities and neck, the white corpuscles were in such numbers as to make

[1] The references to the literature on this subject are *Froriep's N. Notizen*, 1845, p. 780; *Med. Vereinzeitung*, 1846, Nos. 34, 36; 1847, Nos. 3, 4; *Canstatt und Eisenm. Jahresbericht*, 1846, p. 23; *Virchow's und Reinhardt's Archiv.*, 1848, p. 563; Ibid., 1849, p. 587; *Transactions of the London Pathological Society* (cases by Dr. T. K. Chambers), p. 109; Dr. Fuller's case (*Med. Gaz.* 1846, p. 404), is included in Virchow's list. In the *Monthly Journal of Medical Science* (May 1850), Dr. Bennett alludes to a case under his care. A case occurred in University College Hospital in 1846, under Dr. Taylor, and was carefully recorded, but has not been published.

[1] Since this Lecture was delivered, Dr. Fuller exhibited to the Pathological Society of London a specimen of encephaloid disease of the abdomen, taken from a patient in whose blood there were numerous white corpuscles. The inference in the text appears, however, still to hold good.

the blood, found in the right auricle after death, look quite purulent in appearance; they were in as high proportion to the red corpuscles as 2 to 3. In this case, the spleen was not at all enlarged. Therefore it appears fair to infer, that if, in this case, the white corpuscles, in such numbers, could not cause any enlargement of the spleen, the cases, in which the spleen was enlarged, were not dependent on the condition of the blood. It would seem, therefore, that, admitting a connexion between the two phenomena, the enlargement of the spleen in one set of cases, and of the lymphatic glands in Virchow's case, will be proved hereafter to be anterior to the change in the blood.

3. As to the nature of these white corpuscles, the first question is, as to their relation to the ordinary pale corpuscles. I have already stated, that, as far as I could see, there were no differences, beyond those of numbers and larger size, between these cells and the ordinary corpuscles of the blood. Indeed, on examining some specimens of healthy blood, there appeared to be greater differences as to size and transparency between any two cases, than between either specimen and the corpuscles of the diseased blood. The next question which suggests itself is, the degree of resemblance between these cells and pus-cells. Virchow and Vogel have already expressed an opinion, that the white corpuscles in healthy blood, and in this splenic disease, cannot be distinguished from pus mixed with the blood. And certainly, if we take the characters which have been held to distinguish pus-cells from white corpuscles, we find them to fail altogether when we apply them to the case before us. For example, Lebert and Sédillot[1] have laid down the following distinctive marks between pus-cells and white corpuscles:[2] that the pus-cells are larger, of a more yellow colour, perfectly spherical, have a rougher and more granulated surface, and have much larger and better defined nuclei. But, however true these distinctions may be between well-marked pus-cells, and some of the white corpuscles of healthy blood, they will not apply to many of the cells in our diseased blood; for we had cells of extraordinary size, very granular on the surface, and darkish in colour, though not yellow, with nuclei after the addition of strong acetic acid, better defined and larger in appearance than the nuclei of the pus-cells. So, also, it could not be perceived, that these cells were flattened; they appeared as spherical in shape as pus-cells are. And as to drawing any distinction between the grouping of the nuclei in these cells and in pus-cells, it can hardly be ventured upon, in the face of the observations of H. Müller and Henle, who have indicated the remarkable differences which can be artificially produced in the nuclei of pus-cells and lymph corpuscles by the addition of acetic acid of various degrees of strength.[3] But although there were some corpuscles in this blood which could not, I think, be distinguished from pus-cells by physical characters, yet, if all the pale corpuscles could have been separated from the red particles, and shown to any one, I do not think that they would have been mistaken for pus. There seemed to be perceptible differences in the very variable size, in the smoothness and comparative transparency of many of them, and in the white colour of the smaller ones, between them and pus. And of course, although the distinctions cannot be well drawn, it would be as wrong to call these cells pus-cells, as to give that title to the ordinary white corpuscles of the blood.

No transition from these pale corpuscles into red corpuscles could, as far as I could see, be made out. The white corpuscles varied infinitely in size,

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[1] De l'Infection Purulente ou Pyoémia. Par le Docteur C. Sédillot. Paris: 1849. Page 267.

[2] Ibid., p. 404-5.

[3] I am aware that Reinhardt and others have disputed the supposed splitting of the nucleus under re-agents, but the positive observations of Henle seem unanswerable.

yet there was no difficulty in referring every white or red particle to its proper class. We did not see, either, how these white particles retrograded, whether by fat metamorphosis, or some kind of pigment transformation—changes which have been observed by Virchow and others.

4. The exact nature of this disease is still obscure. The only conclusion we are entitled to draw from the facts before us, is, that there is some intimate connexion between these affections of the spleen and of the blood ; but, when it is remembered how little known are the changes which the healthy spleen produces upon healthy blood, how completely unexamined at present are the changes which spleens, diseased in various ways, produce on the blood, and how little examined the white corpuscles of the blood have been, it must be confessed that we are not entitled to go farther than this. The very fact, that every enlargement and congestion of the spleen is not attended with excess of pale corpuscles in the blood, should make us hesitate at present to do more than record the facts as a basis for some future inquiry. Virchow has spoken of the disease as a kind of interruption, or arrest of the development of the red blood cells ; and our case so far supports this, as proving that the red particles are notably diminished in amount. But this opinion of Virchow is, of course, simply a conjecture.

5. In comparing the phenomena of this case with those of the cases already reported, we find a considerable resemblance. A tendency to inflammations and hæmorrhages seems generally to exist, and our patient had frequently pains over the spleen and liver, which appeared inflammatory ; she had also hæmorrhages from the digestive mucous membrane (certainly from the stomach, and, according to her own account, from the intestines), and the profuse bleeding from the leech-bites pointed also to an hæmorrhagic tendency. There did not appear to be any disorder or perturbation in the system from this condition of blood. Digestion in the stomach was performed without apparent difficulty ; and, although there was emaciation, it was not greater than might be accounted for by the age of the patient. As far as the urine was concerned, the proper quantity, or even an excess of uric acid, urea, and indeterminate organic matters, appeared to pass out of the system. Although there was a dusky yellowness of the skin, there was no true jaundice. The pulmonary functions did not appear altered.

6. The causes of this peculiar disease are quite unknown. In almost all the cases, the splenic enlargement has ensued without obvious cause. In one of Virchow's cases, the patient had had ague fifteen years previously ; beyond this there appears no reason to suspect a malarious cause for the enlargement. Our patient was certain she had never had ague, and she had resided for sixteen years in London, where ague is very uncommon. While in the hospital she had some irregular shivering fits, followed, as such fits usually are, by heat and sweating ; but there was no attack of true ague.

7. The treatment adopted in this case was not much varied. I was desirous of trying, in the first instance, the effect of the disulphate of quinine ; at first, half a drachm, and subsequently, 45 grains were given every twenty-four hours for forty-two successive days, without any apparent change in the size of the tumour, or in the amount of colourless corpuscles. All this time, also, iodine ointment was rubbed over the spleen. She took, also, six grains of iodide of potassium with nine grains of disulphate of quinine, for twenty days, without effect. Finally, seven days before she left the hospital, we began to give iodide of potassium, with the intention of pushing the dose. She took ʒss in the twenty-four hours during these few days, without effect, and continued, also, the iodine externally. Occasionally, the spleen either varied in size, or the intestines encroached upon it, and caused an apparent difference ; but, on subsequent examinations, the abdominal tumour used to be found as large as ever, and the blood examined about four days before the patient went out, contained as many pale corpuscles as usual. I intended to have tried various other remedies, iron, mercury, etc., had the patient not quitted the hospital.

8. After death, it would appear, that the separation between the red and white corpuscles gives a whitish or yellowish-white colour to the blood in the heart and large vessels. Hence Virchow has termed the disease "*Leukæmia*", *white blood*, a term which has also been used to designate that condition of the blood in which, from various causes, the serum is milky. The propriety of calling this splenic disease "Leukæmia", may be questioned. The blood in our case was not in the least white; the serum was perfectly transparent; and, although occasionally the white particles would collect on the top of the recent coagulum, and give a pseudo-buffed appearance to the clot, this did not occur on all occasions, and usually the pale corpuscles were uniformly intermixed with the red in the clot, and there was not the least trace of *whiteness* about any portion of the blood. The phrase "white blood" having been appropriated to milky-looking serum, it is, perhaps, desirable to leave the disease, which we have now considered, for the present unnamed.

DIGITI SEMI-MORTUI: THEIR CONNEXION WITH CHLOROSIS, AND WITH DISEASE OF THE BRAIN AND SPINAL CHORD.

M. Gillet de Grandmont has addressed a letter to the editor of the *Gazette Médicale* for May 25th, 1850, of which the following is a translation:—

The *Digitus Semi-mortuus*, mentioned by Dr. Marshall Hall,[1] is never otherwise than the symptom, or one of the symptoms, of another disease, which is met with in young people, in adults, or in old persons.

Connexion with Chlorosis. It is most commonly one of the symptoms of Chlorosis in young girls; I have also observed it in pregnant women who had an anæmic appearance. In young females, sometimes one finger, but most generally several together, are affected. The temperature is decreased, as is easily ascertained by the hand or by the thermometer. The fingers are insensible to pretty strong pressure; a prick with a pin gives no pain, and does not draw blood, or gives a very slight rosy tint. The power of motion remains, but it is embarrassed, and appears to the patient as if mechanical. The appearance of the skin is that of wax; life seems to have deserted the organ. This condition is of varying duration; it is principally observed at rising from bed, and in the course of the morning; it more rarely appears during the day. Dry or alcoholic stimulating frictions, immersion in slightly tepid water, exercising the hand, as with a shuttlecock or skipping-rope, cause it to disappear; but in proportion as the other symptoms of Chlorosis disappear under the influence of proper treatment, this singular symptom occurs less and less frequently, and at last disappears. Some of the chlorotic patients, who are subject to this singular affection, have their teeth of a dirty white colour, which indicates a predisposition to spasmodic convulsive affections. The patients who are affected with *Digiti Semi-mortui*, complain more particularly, among the other symptoms of Chlorosis, of pain in the head, of involuntary stretching of the limbs, and sometimes of violent tremors of an hysterical nature. For several years I have very often met with this affection in chlorotic patients. My attention was first directed to it by a young lady of my family, who pointed out to me that "her fingers were dead". She used to strike them, rub them with a brush, or plunge them in very hot water; and it was only after a certain time that the affection disappeared,—after continuing for half an hour, or even for more than an hour. This symptom is not constant; it appears at more or less distant intervals, according to the general state of the constitution; but it almost always accompanies, precedes, or follows, the nervous convulsive condition. Several young females have predicted an aggravation of their malady, on observing the phenomenon become more frequent or intense. As I have already said, the same treatment which removes the cause of Chlorosis, causes this affection to disappear.

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[1] London Journal of Medicine, April 1849, vol. i, p. 327.

But when, as is often the case, patients, who are nearly cured, neglect to continue the use of iron, the dead fingers are among the premonitory symptoms of a return of the Chlorosis.

Connexion with Disease of the Nervous Centres. The *Digitus Semi-mortuus*, which is met with in adults and in old persons, differs in its characters from that which I have just described. In the latter case, the symptom is preceded by very slight formication, and the cooling is more gradual, but much more persistent; it is sometimes accompanied by a slight flexion of the finger on the palm of the hand, or of the phalanges on each other. In these cases, the finger does not seem so deprived of life as in the other; but the condition continues longer, and when sensibility returns, it seems like the result of a slight internal electrisation, or succession of small electric shocks, as is observed in neuralgic affections. At other times, the finger trembles, and becomes slightly painful at the extremity. There is seldom more than one finger affected at first,—principally the middle finger. The finger often remains straight, and cannot be easily bent by an effort of the will; it also seems affected with a sense of itching, or slight internal retraction. This affection is the precursor of a malady which proceeds slowly but continuously,—an affection of the cerebral and spinal nervous centres. Too much attention cannot be paid to these slight premonitory symptoms; patients often do not observe that terrible diseases are often ushered in by them. I knew a man, once celebrated, who now drags out a painful existence, from not listening to the advice of his physician to cease from work. He considered his own malady as a slight nervous affection; and yet the *Digitus Semi-mortuus* was the first symptom of a severe disease of the cerebellum and medulla oblongata.

HAY FEVER: ITS CAUSE, AND ITS CURE BY NUX VOMICA.

Hay Fever or Hay Asthma is (in England) a well known complaint, by which many—especially females, and those of irritable surface—are annually distressed during the droughts of summer. Daily, or more frequent, paroxysms of difficult respiration, severe prolonged sneezing, and a burning pain in the nostrils, eyes, and face, are the usual symptoms. Dr. Craigie and others doubt the common explanation of the cause of the affection, viz.: that it depends upon irritation of the peripheral extremities of the imperfectly protected nerves of the nostrils, etc., by the subtile pollen of the innumerable flowers, especially the grasses, which bloom in May and June, and with which the atmosphere must, in some localities, be greatly charged. In the vicinity of hay fields and wild pasturage, if the weather be dry, those who are susceptible are certain to suffer; whereas, a rainy season, or sojourn on the sea-coast, will enable such persons to escape. Observation of many such facts has fully satisfied us, that there is no good ground for the incredulity expressed in the following passage by Dr. Craigie. "A particular variety," says he, "of catarrh, most prevalent in the summer months during the inflorescence of the hay crop, in certain situations, has been believed to be connected with some irritative vapour exhaled from the flowers of some of the grasses, and has therefore been distinguished by the name of Hay Fever. It is doubtful whether this idea of the origin of the disorder be well founded; and it seems quite as likely that it is produced, as other varieties of catarrh, by imprudent exposure during excessive heat. The liberties which are often taken during extreme hot weather, are sufficient to induce catarrhal disorders, without having recourse to the assumption of a peculiar emanation." (*Practice of Physic*, vol. i, p. 824: Edin. 1837). We will venture to say, that no one who had seen such cases of Hay Fever as abound at this season, and as we have had to deal with during the present and former seasons, and who has carefully investigated into their personal and topographical peculiarities, could have written the paragraph just quoted. The popular theory is correct, that Hay Fever

bears no relation whatever to common catarrh from exposure to cold. We feel assured that the cause and the cure in the two complaints are totally different.

We have been led to make these remarks, from having just perused a short note by Mr. G. T. Gream, in the *Lancet* of June 8th, 1850, p. 692, in which he recommends Nux Vomica as a cure for this troublesome complaint. He correctly remarks, that the efficacy of this method is not generally known. The following is the essential part of Mr. Gream's paper: "I am indebted to my friend Mr. Hammerton, of St. George's Hospital, for suggesting to me the Nux Vomica as a remedy in this complaint, which has frequently caused me, personally, much annoyance. It was administered by a friend of his to large numbers of the country people in his neighbourhood, who flocked to him annually for relief, having experienced so much benefit from it. Having taken it for three years with decided effect, and having for nearly that time prescribed it for others, with equal success, I feel bound to publish it through your columns, if you will do me the favour to insert this letter, the results of its use in a harassing disorder, with which many persons are at this time threatened. The preparation recommended, and which I have always prescribed, is the tincture of nux vomica of the "Dublin Pharmacopœia." Ten drops of this should be given for a dose, in water, and increased gradually to twenty drops, three times a day: the action of it should at first be watched. It is an agreeable light bitter; increases the appetite; and influences the Schneiderian membrane, no doubt through the medium of the nerves. I have accompanied the administration of the tincture with the application of an ointment (as high up in the nostrils as possible) composed of one drachm and a half of Goulard's extract, two ounces of spermaceti cerate, and a few drops of oil of roses or of bergamot."

OBSTETRICS.

SKODA ON THE CAUSES OF PUERPERAL FEVER—EXPERIMENTS ON ANIMALS.

In a paper read before the Medical and Chirurgical Society of London, on November 28th, 1848, and published in Volume xxxii. of the Transactions of that Society, Dr. Routh brought before the notice of the British Medical public, the discovery by Dr. Semmelweis, of Vienna, of the cause of the great frequency of Puerperal Fever in the Lying-in Institution of that city: viz., the introduction of poisonous animal matter into the uterus by the hands of the accoucheurs; and he also referred to the success which had attended the preventive means recommended by Dr. Semmelweis, of washing the hands with chlorinated water after making post-mortem examinations.[1] Dr. Skoda, of Vienna, has also examined the subject, and has laid before the Academy of Sciences of that place the result of his investigations, which have been published in the *Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien*, for February 1850. The first part of his communication refers to the circumstances which led to the discovery made by Dr. Semmelweis: and his remarks are confirmatory of what has already been laid before the profession in this country by Dr. Routh.

The second division, of which we shall give a translation, refers to the measures necessary for ascertaining the correctness of the results at which Dr. Semmelweis has arrived. On this subject, Dr. Skoda writes as follows:

When the washing of the hands in chlorinated water had been for some time in use, with apparently highly successful results, Dr. Semmelweis communicated his idea to Professor Rokitansky, myself, and other physicians of the Hospital. We did not doubt for a moment that his view

[1] For an abstract of Dr. Routh's paper, see the London Journal of Medicine for January 1849, p. 108.

would prove correct: and I lost no time in making the discovery known to the Director of Medical Studies, in the expectation that a committee would be appointed to inquire into such an important fact. But my representation appears to have been merely made known. A more probable opportunity of bringing the matter publicly into notice, was the great number of deaths in the Lying-in Hospital at Prague, which were probably due to the same cause as those at Vienna. I therefore recommended the use of chlorinated water in Prague; but as it seemed to be the general opinion in that place, that Puerperal Fever was propagated by epidemic influences, the means recommended by me seem to have had little or no trial.

Dr. Semmelweis applied to the obstetric professors in foreign countries, to test the correctness of his observations: but the only precise answer received was from Kiel. Dr. Michaëlis, the superintendent of the Lying-in Institution of that place, reported on the 18th March, 1848, that the hospital had been closed from the 1st July to November, 1847, on account of the great mortality which prevailed. At the latter period, it was again opened, and the disease broke out as severely as before. In December, 1847, Dr. Michaëlis heard of the discovery of Dr. Semmelweis, and forthwith instituted the use of chlorinated water. Subsequently to that period, there was only one case of Puerperal Fever; and that one is attributed by Dr. Michaëlis to the use of a catheter which had not been properly cleaned. On the other hand, Professor Kiwisch, of Würzburg, stated that he had frequently attended pregnant and puerperal women, immediately after making *post-mortem* examinations, without observing any untoward results.

At my suggestion, a commission of the Professors of the College was appointed to examine into the following questions:

(*a*) From the construction of tables, in which were given the name of each assistant or student attending on the cases, to determine whether the number of cases of Puerperal Fever bore any relation to the employment of the assistants and students in the dead-house. (*b*) To examine into the so-called street-births (*Gassengeburten*). When a female enters the hospital soon after being delivered, no further manual examination is made, except for the purpose of removing the placenta, or of treating some disordered condition of the generative organs. If the opinion of Dr. Semmelweis be correct, these cases should present but few examples of disease. (*c*) To inquire of the Lying-in Institutions in Austria and elsewhere, whether the mortality is less, where there can be no source of infection from the handling of dead subjects. (*d*) To make experiments on animals. My suggestion was adopted by a great majority of the Professors, and a committee was appointed, but the Government forbade the proceeding of the committee. Under these circumstances, I requested Dr. Semmelweis to undertake the experiments on animals. These were accordingly performed on rabbits.

Experiment I. On March 22, 1849, a female rabbit, which had been delivered for a quarter of an hour, was operated on. A brush, dipped in some ill-coloured exudation from a case of endometritis, was introduced into the cavities of the vagina and uterus. The animal appeared well up to the 24th April, when it died.

Post-mortem Appearances. The plicated mucous membrane of the cornua uteri was covered with a dirty reddish-grey fluid exudation. The left pleural cavity contained some fluid; the lower lobe of the lung on that side was covered with a pale yellowish, false membrane. Its parenchyma, as well as that of the posterior and lower third of the upper lobe, was in a state of grey hepatization; the rest of this lung, as well as the right, contained air, and was of a vermillion-red colour. The heart was enveloped in a finely-villous layer of pale yellow exudation, and there were a few drops of fluid matter.

Experiment II. On the 12th April, a female rabbit was treated in a similar manner to the last, about twelve hours after having been delivered of five young ones; and the application was repeated daily. On the 14th April, the

animal expressed pain on the introduction of the brush, the uterus contracted with force, and some thick yellowish-white exudation was pressed out. On April 17th the animal appeared decidedly ill; on the 22nd, diarrhœa set in; and the animal was found dead on the 24th. The brush had been introduced once daily, up to the time of death.

Post-mortem Appearances. The peritoneal cavity contained false membranes, glueing together some of the intestinal convolutions. There was a stiff yellow exudation on the mucous membrane, and in the tissue of the vagina and uterus; the cornua of the uterus were moderately distended, and filled with a dirty reddish-grey exudation. The colon contained some follicles in a state of suppuration; its mucous membrane presented spots of the size of a lentil, partly suppurated, partly infiltrated with yellow exudation: each of the spots was surrounded with an injected vascular area. The lungs were of a clear vermillion red; the upper lobe of the left lung contained a condensed spot, of the size of a bean, infiltrated with blood, and having a purulent point in the centre.

Experiment iii. On the 15th April, a female rabbit, which had been delivered about ten hours, was treated in the same way; and the application was repeated daily up to the 21st. On the 17th, the animal gave signs of pain, and expressed some purulent exudation from the uterus. On the 26th, diarrhœa occurred.

Post-mortem Appearances. The abdominal cavity contained a moderate quantity of fluid and membraniform exudation, glueing together some of the intestinal convolutions. The mucous membrane of the vagina and uterus was covered and infiltrated with a yellow intimately adherent deposit; the cornua of the uterus were much distended, and filled with a reddish-grey dirty matter. The liver presented some spots of the size of lentils, infiltrated with a purulent exudation. Near the termination of the *processus vermiformis* the mucous membrane of the colon presented a spot larger than a lentil, surrounded by an injected area of vessels; it was ulcerated, and covered with a pale yellowish exudation.

Experiment iv. On May 24th, a strong rabbit was operated on, an hour after being delivered of five young ones. The brush was dipped in the blood (mixed with water) of a man who had died of marasmus thirty-six hours previously. On the 25th, it was charged with some pleuritic exudation; and on the 26th and 27th, with some exudation from the peritoneum of a tuberculous patient. The brush was not again introduced; the animal continued apparently in perfect health, and again brought forth young on the 24th June.

Experiment v. On the 2nd of June, some of the peritoneal exudation which had been used in Exp. iv, was applied to a rabbit about twelve hours after delivery; and the application was repeated on the 3rd, 4th, and 5th of the month, after which it was discontinued. The animal appeared in good health. On the 28th, it again brought forth young, and the brush was again applied on the 29th and 30th, charged with pleuritic exudation. The animal continued well, and was killed on the 17th July in performing another experiment. No alterations referable to pyæmia were observed on necroscopic examination.

Experiment vi. On the 10th of June, some purulent exudation from the pleura of a man was introduced into the uterus of a rabbit, some hours after delivery; and from the 11th to the 30th, the brush was dipped in some peritoneal exudation from a man who had died of typhus. The animal continued well, and again brought forth young on the 13th July. On the latter day, the brush was again introduced, and the application was repeated daily up to the 24th. The animal became lean, had diarrhœa, and was found dead on the 30th.

Post-mortem appearances. The pericardium contained a few drops of flocculent serum. There was a dirty whity uneven vegetation, of the size of a pea, on the tricuspid valve, pressing against the *conus arteriosus;* and a similar body was situated on the free margin of one of the divisions of

the valve, intimately united with the endocardium covering its muscle. The inner surface of the right ventricle was covered with a yellowish white granular false membrane. The peritoneum contained some pseudo-membranous and fluid exudation. In the periphery of the liver, near the lower surface, there was a spot of the size of a pea, infiltrated with a stiff yellowish deposit. In the uterus, several veins of remarkable thickness, between the body and the right cornu, were found filled with a stiff yellow exudation.

Experiment vii. On June 16th, some hours after parturition, the brush was applied, charged with pus taken from an abscess between the ribs of a person who had died of cholera. The operation was repeated daily up to the 3rd of July; but the animal remained well, and was again delivered on the 18th of that month. The experiment was now modified, so as to avoid the chance of producing mechanical irritation with the brush. The fluid was injected by means of a gonorrhœa syringe, with a tube three inches in length. Soon after the injection, the animal again ejected the fluid. It was daily repeated up to the 24th of July, and the animal was found dead on the 29th.

Post-mortem appearances. Both pleural cavities contained some thickish yellow exudation. In the peritoneum, there were two ounces of exudation, partly coagulated in the form of a membrane; the uterus was normal, but pale.

Experiment viii. On June 24th, the same animal was operated on, as had been the subject of Experiment iv. The brush was applied daily until July 8. The animal wasted away, was seized with diarrhœa, and died on the 25th.

Post-mortem appearances. The peritoneum contained some yellowish exudation. Closely adhering to the posterior wall of the uterus there was a thin dirty-yellow false membrane; the cornua contained some dirty reddish grey fluid exudation; and, on the border between the vagina and uterus, corresponding to the orifice of the urethra, there was a superficial sloughed spot of the size of a bean, infiltrated with purulent exudation. The ulcer in this situation had uneven undermined edges, and the base was covered with a layer of exudation. The substance of the vagina, for an inch in length, was infiltrated with a deposit of a line in thickness.

Experiment ix. On August 8th, some exudation from the peritoneum of a male subject was injected, a few hours after the animal had brought forth young. It was soon rejected; and the operation was repeated daily until the 15th. The animal appeared ill on the 13th, became lean, and was found dead on the 20th.

Post-mortem appearances. There was some floculent exudation in the peritoneum, and numerous yellow inflammatory spots, mostly of the size of hemp-seeds, on the periphery of the liver. On the mucous membrane of the posterior wall of the uterus, there was an excoriated spot of the size of a lentil: the substance of the organ was infiltrated with yellow exudation as far as the peritoneum. The right cornea was so much infiltrated as to be of double its normal size. There was some free exudation on its mucous membrane. The veins in both broad ligaments were filled with exudation.

Remarks. It is scarcely necessary to mention, that the changes found in the bodies of the rabbits, were the same as those which occur in the human body as a consequence of puerperal disease and of pyæmia in general. It might be objected to these researches, that in them a greater quantity of putrid matter was employed, and that it was, in eight of the experiments, introduced for several days in succession, while on the other hand, the quantity of putrid matter remaining on the hands, when they have been washed—as is always the case—after making *post-mortem* examinations, can be but very small. But this objection does not appear to me to possess much weight, seeing that the operation of putrid matter on the blood does not depend on its quantity; for infection not unfrequently takes place through a wounded part, which is almost imperceptible from its minuteness. It would be judicious, in order to remove all doubt, that more extensive and varied experiments on animals should be performed.

LANGENBECK ON THE APPLICATION OF LIGATURES TO UTERINE AND OTHER POLYPI. DANGER OF PURULENT INFECTION.

The following remarks, which form part of a paper published by Professor LANGENBECK, of Berlin, in the *Deutsche Klinik* for 6th April 1850, are highly important. The occurrence of pyæmia after the Ligature of Uterine Polypi, seems to have scarcely yet attracted notice: yet we cannot doubt the possibility of its occurrence, and of its producing a train of symptoms analogous to those described under the name of puerperal fever or peritonitis. We by no means wish to discourage the system of applying ligatures to Uterine Polypi (on which subject an elaborate essay by Professor Simpson will be found in our Reports of Societies): but we would recommend a careful consideration of the views of Langenbeck to the notice of our readers.

PROFESSOR LANGENBECK'S REMARKS. The numerous instruments which have been contrived for Ligature of Polypi of the uterus and pharynx, shew the great apprehension of hæmorrhage from their excision or evulsion. Even the assurances of Siebold, Dupuytren, and other distinguished surgeons, that there is no greater danger of hæmorrhage from the excision of Polypi than from other operative methods, have not removed this apprehension; and the Ligature of Uterine Polypi is rapidly gaining ground, in spite of the difficulty of its performance. It is true, that the excision of large fibrous tumours from the pharynx and uterus may be complicated with considerable hæmorrhage; but this generally ceases of itself when the operation is ended, or may be quickly and surely restrained by the continued injection of cold water, by compression with the finger, or, in the most obstinate cases, by plugging. The cases, in which actual danger arises from the patient becoming exhausted by hæmorrhage through the cut pedicle of the tumour, are very rare. But the dangers attending on Ligature of the Polypi are far greater; and this operation would certainly be had recourse to only in exceptional cases, if the fatal cases following it were not less apparent than those from the much-dreaded hæmorrhage. A death, occurring some days or weeks after a bloodless operation, seems less terrible than one occurring suddenly from hæmorrhage, under the hands of the operator. The danger of purulent infection, after the application of a Ligature to Uterine Polypi is so obvious, that I have not yet been able to determine on performing this operation. During the last ten years, there have occurred, to myself alone, ten fatal cases of pyæmia after Ligature of Polypi. The larger polypous (fibroid) tumours of the uterus and pharynx are furnished with large veins with thin parietes, doubtless arising from the impediment to the return of blood caused by the dependent position, or constriction by the os tincæ, of the tumour. As the firm parenchyma of these tumours can only be slowly cut through by a Ligature, the blood must still circulate in one part, while another is in a sloughed and softened state. As long as the pedicle is not entirely cut through by the Ligature, pyæmia is to be feared. Entirely independent then of the danger of convulsions, suffocation (in Polypi of the pharynx), secondary hæmorrhage, etc., the application of the Ligature ought to be entirely rejected on account of the danger of pyæmia. But if it be still determined, in spite of the marked success attending the excision of Polypi, and in opposition to which, scarcely a single case of unrestrainable hæmorrhage can be related, to apply a Ligature, I consider it indispensable that the polypus should be immediately excised, that the Ligature should be used only as a precautionary measure, and that it should be removed as soon as the danger of hæmorrhage appears to have been obviated.

It is not my purpose to enter on a critical examination of the various methods and instruments employed in applying the Ligature to Uterine Polypi; as, for the most part, they possess only an historical interest. With very few exceptions, they are all faulty in being difficult of application, in tending to produce violent irritation of the neighbouring parts, and in the Ligature being unable to be removed until the pedicle of the tumour is entirely divided.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY,

Tuesday, March 12, 1850,

Dr. Addison, President, in the Chair.

On Fatty Diseases of the Heart. By Richard Quain, M.D., Assistant-Physician to the Hospital for Consumption, etc. (Communicated by C. J. B. Williams, M.D., F.R.S.) The author commenced by referring to the circumstances which had directed his attention, five years ago, to the subject of these diseases, to the want of information which then existed, and to the essays which had since been published. He said there were two forms under which fat occurred, as a disease of the heart. In one form, "fat tissue" grew upon and amongst the fibres—concealing them, in some cases, to such an extent, as to lead to the supposition that the heart's walls were composed of fat. In such cases, the fibres may still be found unchanged in structure, when the part is examined with the microscope, but more or less distorted in their course, by the existence of large fat cells amongst them. He referred to the circumstances which seemed to direct the distribution of fat on the heart, and the parts where it was most abundant. In the second form, the muscular fibre became disintegrated, and degenerated into a granular or molecular fatty matter—in such cases, there was not of necessity any fat growth on or about the heart. He traced the progress of this change in the fibre, as shown by the microscope, and presented in drawings the appearances described. He showed the effects which the presence of this fatty matter in the place of muscular fibre must have on the physical characters of the heart, on its colour, its consistence, etc. He pointed out the circumstances by which the appearances were modified, as well as those which guided us in ascertaining its presence. In the next place, under the head of "Preceding Observations on these Diseases," the author gave a very complete account of the extent of our previous knowledge on the subject. He followed by successive steps the progress of our information, from the period of the oldest authors whose writings bore thereon, to the age of Harvey, through subsequent writers, to the present time: he showed that the disease here described as true fatty degeneration of the fibres of the heart, had been recognised, though, like fatty degeneration of the liver, the exact change in the fibre has not been distinctly ascertained. For information on this latter point, we are indebted to the researches of Williams, Peacock, Rokitansky, Paget, Ormerod, and others. The author took occasion here to contrast the characters of fatty degeneration of the heart, with those of fatty degeneration of voluntary muscles.

Thirdly, he traced the circumstance under which these diseases occurred. He showed the relation which the growth of fat on the heart bore to the presence of its elements in the blood, and to the influence of the age, sex, habits of life, etc., of the individual on this condition. On the other hand, he described fatty degeneration as being a process of decay or true degeneration. He established this conclusion, by a series of observations on the microscopical and chemical characters of the substance called adipocere; by experiments made by himself and others, on the artificial formation of fatty matters in albuminous and fibrinous textures external to the body, and by the identity of the appearances in the artificial and the natural processes. He mentioned a great variety of circumstances under which this change took place in the living body, in which it must have occurred independently of any direct communication with the vascular system. He quoted the names of several authorities on these points, but more particularly in refer-

ence to their pathological import, those of Williams, Paget, and Rokitansky; and established the inference, that when the vital properties of these higher animal substances were impaired, they yielded to the physical influences by which they were surrounded, and fell into a class of more simple compounds, shared by them with plants and minerals. He showed, by reference to Mr. Paget's observations, that the first step in this process was an impairment of the nutrition of the organ; and then he showed how this impairment occurred: 1st, the heart participating in a general mal-nutrition of the body; or, 2ndly, suffering locally by disease of the coronary vessels, or as the ultimate effects of endo- and peri-carditis. Numerical illustrations of these facts were given. The author then referred to the diseases which were found in association with this condition, they being chiefly degeneration of other organs, blood-vessels, etc. The most frequent seat of the disease, the age, the sex, the station in life of the individuals, and various facts in connexion with the history of the disease, were also numerically illustrated. The characters of the so-described soft, flabby hearts, and the difference of opinion as to their nature, were discussed, and their relation to fatty degeneration considered.

Fourthly. The effects of these diseases were described as being those connected with impairment of structure and function, causing derangement of the circulation, etc. It was shown, that of fifteen cases of extreme accumulation of fat on the heart, five had suffered from giddiness and coma, eight from syncope, and nine from short breath, languid circulation, etc. Of the fifteen, fourteen had died suddenly—viz., by syncope, or in an analogous condition, ten; by rupture of the heart, three; by coma, one. In reference to the effects of fatty degeneration on the structure and functions of the heart, the author showed that it was found in connexion with hypertrophy in thirty-nine out of sixty-eight cases. He believed this to be due to hypertrophied hearts suffering from impaired nutrition more readily than other hearts—not, as Rokitansky supposed, to a disturbance of the balance of the nervous functions. The heart may be found unchanged in size, or decreased. The diminished consistence of the tissue, permitted the occurrence of some of the most fatal lesions to which the organ is liable—viz., rupture, which took place in twenty-five of the sixty-eight recorded cases. In twenty cases, the rupture perforated the walls of the heart. In five other cases, it was incomplete, being confined either to the internal surface, the external surface, or in the substance of the heart. Rupture in the substance gave rise to the appearance called by Cruveilhier cardiac apoplexy. The blood effused in these cases may become encysted, and, losing its colour, give rise to the appearance of an abscess. Cardiac aneurism may also be formed. Illustrations of these facts were given from the tables of cases. The effects of fatty degeneration on the heart's functions gave rise to coma, and even apoplexy. The power of the right side of the heart being weakened, its cavities became filled, and the circulation obstructed. Illustrations from preceding writers on this point were given. The impaired powers of the left side of the heart were, on the other hand, a frequent cause of faintness or syncope; it was present in fifteen cases. This syncope may amount to a mere feeling of faintness, or to so complete an arrest of the vital powers as to cause death. Sudden death occurred in fifty-four of sixty-eight cases, in twenty-one of which it was by syncope. Pain in the region of the heart and breathlessness, with certain peculiarities in each, were also numerically illustrated, and the causes on which they depended considered. The syncopal feelings, the pain, and the breathlessness, may occur independently of each other, or in combination; they may thus give rise to the phenomena known as angina pectoris. It appeared to the author, that this condition of the heart afforded, in many cases, a sufficient explanation of the pathology of this disease; and he expressed his opinion, that many of the cases in which no disease of the heart had been observed, in which the symptoms were attributed to disease of the

coronary arteries, or to fat on the heart, were, in all probability, examples of this fatty degeneration, which had so long been overlooked. He confirmed this opinion by the details of cases in the tables.

Hereditary predisposition, and the duration of the disease, were treated of so far as the facts permitted.

Fifthly. The symptoms and diagnosis of these diseases, more particularly in reference to fatty degeneration, were described. A distinction was drawn between those cases in which the heart, participating in the general impairment of the health, was perhaps equal to the demand made on its functions, and those in which the heart, being impaired by local causes, suffered out of proportion to the system generally. In the latter case, the symptoms were very unequivocal. In addition to the phenomena referred to in the preceding section, the pulse almost always gave indications of the condition of the heart. It was recorded, in thirteen cases, as being irregular; in fourteen, as being weak; in eight, slow; in a few, as being full, regular, or quick; in none, strong. The feeling of fatigue, from slight causes, particularly from ascending heights, the breathlessness, etc.,—all progressive, from being so slight as scarcely to attract notice, to the most extreme suffering on exertion, were mentioned. An anxious expression of countenance, mental irritability, and copious sweats from trifling causes, were also noticed. The physical signs of the disease—viz., feeble impulse, feeble first sound, extended dulness, perhaps a murmur with the first sound, from disease of the columnæ carneæ, or imperfection in the second sound, were also discussed.

Sixthly. The treatment, which in some cases had been found more successful than might have been supposed, was such as was calculated to improve the condition of the blood. We could not restore lost fibres, but we could render those which remained more effective; we could improve the material to be supplied by the blood, and we could render this fluid a better stimulant. The author referred particularly to the management of the digestive organs, to the use of iron, and the relief of paroxysmal attacks by the use of antispasmodics. Narcotics were not borne, and he mentioned examples of their injurious effects, as also the ill effects of exertion or of over-exercise. Leeches to the region of the heart, followed by counter-irritation, had, in some instances mentioned, been found very useful in preventing the return of distressing paroxysms of dyspnœa and pain. The author concluded by a quotation from Boerhaave, aptly illustrating the formidable effects of this otherwise inoffensive material, when it occurs in a situation to which it does not belong. He apologized for the length of his communication, which was due to the importance of the subject and its numerous relations. The paper was accompanied by tables, containing the abbreviated histories of eighty-three cases of these diseases, and by a number of beautifully executed drawings.

[Dr. Quain's elaborate and able communication occupied the whole sitting, so that there was no opportunity for discussion.]

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

November 21, 1849.

James Syme, Esq. President, in the Chair.

Detection and Treatment of Intra-uterine Polypi. By J. Y. Simpson, M.D. [The dilatation of the os uteri, by sponge-tents, was formerly advocated by Dr. Simpson; and in the present paper, the same practice is recommended and enforced by the details of some very interesting and important cases. The communication appears as an original article in the *Edinburgh Monthly Journal* for January, 1850, from which we subjoin some extracts.]

"The sponge-tents used by myself and my professional brethren in Edinburgh, are manufactured by Duncan, Flockhart, and Co. They are of a narrow conical, or pyramidal form; and are used of many different sizes and

lengths, according to the object in view. These tents are made by dipping a piece of sponge in a strong solution of gum-arabic—tying and compressing this sponge around a central wire, as its axis, into the required conical form, by a continuous layer of whip-cord, drying it thoroughly, removing the cord, and, subsequently, slightly coating the surface of the tent with tallow, or axunge and wax, to facilitate its introduction. The central wire passes only for half-an-inch or an inch, into the base of the cone, and the opening left by it serves as an aperture to transfix the tent with the tip of the metallic director, used for guiding and introducing the tents through the os uteri. They are introduced like the uterine sound or the catheter; the handle of the metallic director, with the sponge affixed to it, is held and manipulated by the left hand, while the fore-finger of the right hand touches the os uteri, in order to guide and direct the apex of the tent into that opening. The old forms of sponge-tent used by surgeons, and made of sponge steeped in preparations of wax, required, for their expansion and development, the aid of heat, in order to dissolve their retaining ingredient. The tent I have described, made by steeping sponge in a solution of gum, requires moisture, and not heat, for the solution of its retaining material, and for the expansion of the sponge. Very generally, the secretions of the surrounding mucous canal afford a sufficient quantity of moisture for these two purposes; but, if not, a small quantity of tepid water may be injected from time to time into the vagina. Usually, a well-made tent takes twenty or thirty hours to expand to its full extent in the os uteri; and dilates to four or five times the diameter it presented in its original compressed state. Generally, the first tent opens up the os and cavity of the cervix, and allows the finger ample space to examine sufficiently its contents, and the state of its parietes. If it be necessary to open the uterine cavity higher, so as to enable the finger to pass into the cavity of the body of the organ, a succession of tents is usually required; and they must be passed completely through the os internum or narrow portion, lying between the cavity of the cervix and cavity of the body of the organ. The use of the tent for a day, generally, as I have already stated, dilates the os uteri and cavity of the cervix sufficiently; and the employment of the sponge is accompanied with little or no feeling of uneasiness. When it is necessary to examine the state and condition of the interior of the cavity of the body of the organ, the persevering use of a series of larger and larger tents for several days, is usually requisite; and the dilatation of the os internum and body of the organ, sometimes, but not always, causes a feeling of uneasiness and pain, which may require the use of an opiate. The tent is always prepared with a string affixed to its base, to allow of its easy removal. In using sponge-tents, it should be remembered, that, when sponge is in contact with the maternal passage for some hours, it always exhales, when removed, a very fœtid odour.

"For dilatation of the unimpregnated os uteri, the tent should be selected as regularly conical as possible; and with the apex neither too blunt and rounded to pass the os, nor too slender and flexible so as to double back in the attempt. The spirally grooved surface of the tent, resulting from the compression of it by the whip-cord during its manufacture, tends to retain it *in situ*, till its expansion commences. It, perhaps, ought to be added, that the introduction of the sponge-tent into the os and cavity of the uterus, should be effected without the use of the speculum. The sense of touch serves, in this, and some other analogous operations, infinitely better than the sense of sight.

"By the use of sponge-tents introduced daily, and of increasing size and length, we may reach a polypus, when affixed and sessile even upon the fundus uteri. One of the first cases in which I dilated the uterine cavity to its extreme height, was the following:—

"Case. In 1844, a patient, æt. thirty-six, under the care of Dr. Graham, of Dalkeith, had a miscarriage, from the effects of which she never satisfac-

torily recovered. Previously, she had borne four children. When I first saw her, two or three years afterwards, she was emaciated and extremely pallid, from the excessive loss of blood which she had been sustaining for some time; and her weakness was such, that it was with difficulty she could rise and walk across her bed-room. In August, 1847, I dilated fully the interior of the cervix and body of the uterus, by a succession of sponge-tents, and at last, felt a hard, round fibrous polypus, seated at the very fundus of the uterus, and projecting, of the size of a walnut, into the upper part of the cavity of the organ. Dr. Ziegler, Dr. Toogood of Torquay, and other professional friends, confirmed this diagnosis. It was impossible to ascertain how it was pediculated, or to operate upon the pedicle. We could only reach the round body of the tumour; and that I compressed strongly and repeatedly in the blades of a lithotomy forceps, with the view of breaking down its tissue, so as to destroy the vitality of the polypus. A purulent discharge followed, and three largish pieces of organised structure were subsequently cast off. Her recovery of health, after these discharges ceased, was gradual, but perfect. There has been no return of menorrhagia. About a year ago, she called upon me; and the change from excessive pallor and emaciation of the face, to the hue and ruddiness of health, was so great that I had difficulty in being convinced of the identity of my former patient.

"The polypus, while still included within the uterus, is principally liable to give rise to the following groups of symptoms:—

"1st. Menorrhagia, in consequence of the discharge of blood from the surface of the tumour. The attendant hæmorrhages take place particularly at the menstrual periods, but are apt to recur also at other times; and the blood is sometimes fluid, sometimes coagulated; occasionally, there is an almost constant red stained discharge. The effects of these repeated floodings upon the constitution of the patient, vary with their amount; but if they go on increasing (as they usually do) in quantity and frequency, the patient's constitution gradually becomes more and more shattered and broken down by the amount of hæmorrhagic discharge; and all the symptoms of anæmia, in their most marked degree, at last supervene, as pallor of the face and lips, great muscular debility, palpitation, vertigo, dyspepsia, œdema, etc.

"2dly. The discharge of mucous, purulent, or serous matter from the cavity of the uterus, in consequence of the mucous membrane of the organ becoming often irritated, inflamed, and even ulcerated by the presence and pressure of the polypus. If a severe leucorrhæal discharge is present, and we ascertain by the speculum that it does *not* originate in ulceration or other morbid state of the external surface of the cervix, or of the vagina; and if we further detect, with the speculum, the discharge issuing from the cavity itself of the uterus, the probabilities of it originating in some pathological irritation within the uterus, will be necessarily increased. Sometimes the discharge, in cases of polypi, is fœtid, especially if it be retained, or mixed with decomposing blood.

"3dly. Increased size of the cervix and body of the uterus, in consequence of its interior being distended by the presence of the polypus, is traceable in those cases in which the polypus is of any great size. Not unfrequently, intra-uterine, like vaginal polypi, are found combined with the presence of fibrous tumours in the walls of the uterus; and by these tumours, the magnitude of the organ is increased, and its shape rendered more or less irregular. Fibrous tumours of the uterus are seldom or never situated in the walls of the cervix; and if the swelling and distension affect the cervix, there is consequently much more chance of its being a polypus, and not an interstitial fibrous tumour, than when we have similar symptoms attendant upon a similar augmented state of the body of the organ. Further, the probability of the disease being intra-uterine polypus would be increased, if, on successive examinations, we had an opportunity of ascertaining that the large and distended state of the cervix was descending gradually lower and

lower down towards the os; for polypi, in their progress and descent, gradually dilate the cervix from above downwards, in the same way as happens in pregnancy or abortion. They are born by a kind of chronic labour.

"4thly. There may be symptoms of irritation and pressure upon the bladder, rectum, etc., if the polypus happen to be so large as to exert mechanical compression upon these or other parts; or dysmenorrhœa, if it fill up the cavity of the cervix. And sympathetic pains may be present in the loins, limbs, etc.; or there may be sympathetic disturbance of the stomach, heart, etc., if the uterus be much irritated and excited by the presence and distension of the polypus.

"But one or more of the preceding groups of symptoms may be altogether absent, though the uterus contain an intra-uterine polypus. The mechanical and sympathetic symptoms, last alluded to, are the most uncertain of all. For while almost all uterine diseases, however intrinsically different, give rise to similar secondary and sympathetic symptoms, we have often, in other instances of the very same diseases, these same symptoms entirely wanting; just as in one woman, during pregnancy, we sometimes see severe, even serious, local and constitutional symptoms; and in another woman, or even in the same woman in another pregnancy, we see the same condition of the uterus unattended by any special local or constitutional disturbance. Again, there may be no ascertainable increased volume of the uterus, as the polypus, especially if it be vesicular, and originate in the interior of the cervix, may be far too small to lead to any appreciable augmentation in the size of the organ, although, notwithstanding, the menorrhagia may be great; for the extent of flooding does not depend on the size of the polypus, small polypi, like small hæmorrhoidal excrescences, often being the source of severe and repeated hæmorrhages. Further, the leucorrhœal discharge which is sometimes attendant, may be entirely absent, as the polypus may not be irritating the mucous surface of the cavity in which it is inclosed. And lastly, polypi, occasionally, though not very frequently, are present for a long series of years without producing any degree of hæmorrhage or menorrhagia. In one case, for example, there was a state of long standing amenorrhœa, instead of menorrhagia, co-existent with presence of a polypus, though the two conditions (the amenorrhœa and polypus), had, probably, no causal relation to each other.

"No remark could be, pathologically and practically speaking, more sound and true than that which Sir Charles Clarke many years ago made:—'The true character of any disease of the internal female organs can *only* be ascertained by examination.'[1] With this view, in order to enable the finger to reach and examine the cavity of the uterus, the os and cervix must be opened up by a succession of sponge-tents, in the way already described. When an adequate degree of dilatation is obtained, the finger will be enabled to touch the tip of the polypus; and then the pediculated or polypous character of the tumour may be farther made out, by passing either the finger or a uterine sound between its body and the containing cavity of the uterus. In making this examination, as in making most other examinations of the uterus, a rule requires to be followed which is too often forgot, namely, to use both hands for the purpose. For if we are examining the uterus internally, with the forefinger, or fingers of the right hand, the facility and precision of this examination will be found to be immensely promoted by placing the left hand externally over the hypogastric region, so as to enable us, by it, to steady, or depress, or otherwise operate upon the fundus uteri. The external hand greatly assists the operations of that which is introduced internally; and farther, we can generally measure between them, the size, relations, etc., of the included uterus.

"If without, or before using sponge-tents, we are desirous to examine at the

[1] Diseases of Females, vol. i, p. 250.

time when the os uteri is naturally most relaxed, we shall find that time to be either immediately after a menstrual discharge, or immediately subsequent to any severe attack of intercurrent hæmorrhage. Under such circumstances, we can sometimes introduce the finger partially into the os uteri, and ascertain the presence of any morbid body in the lower segment of the cervix; when, in the same patient, at other times, this orifice is so completely shut as to prevent entirely such a proceeding. Sometimes, indeed, a small or elongated intra-uterine polypus will pass through the os uteri at these times, so as to be felt by the usual vaginal examination; but will become retracted into the cavity of the cervix, during the interval between the hæmorrhagic discharges.

"The Treatment of Intra-uterine polypi requires to be varied according to different circumstances, but particularly by the tendency or probability of the tumour passing downwards or not through the os; by the effects of the symptoms or the urgency of the case; and by the size and site of the polypus.

"Two plans of procedure may be followed, according to the nature and necessities of the case, viz: *First*, to wait till the polypus descend farther; or, secondly, to remove it immediately. It is a generally acknowledged principle in obsteric surgery, that a polypus of the uterus should be extirpated as early after its discovery as possible. But when such a tumour is discovered still included within the uterine cavity, and the polypus seems gradually but certainly making its way downwards through the cervical cavity, and the hæmorrhage and other symptoms are not urgent, it will assuredly be better to wait for its descent through the os; for, after that, its removal becomes much more easy and simple. The dilatation of the os and cervix by the sponge-tents will promote and facilitate its descent; and perhaps the internal use of the ergot of rye may aid it. But the degree of attendant hæmorrhage and debility may be too great to entitle us to postpone the removal of the polypus; or the tumour may be attended by such a short pedicle, as not to be capable of leaving the uterine cavity without dragging down with it, or inverting the fundus or some parts of the parietes of the uterus; or it may be retained in its descent by adhesions formed between the surface of the uterus and the surface of the polypus. I once witnessed the dissection of a case of a large fibrous polypus included in the cavity of the uterus, and where inflammation had been present before death; the surface of the polypus was adherent to the surface of the uterus through the medium of a recently effused false membrane. Even when an intra-uterine polypus has descended so far as even partially to open up the os uteri, it may remain in that situation for such a length of time, and with such results, as to place the patient in no small degree of danger.

"But, *secondly*, the severity of the attendant hæmorrhages, or the improbabilities of the speedy and entire descent of the intra-uterine polypus, may induce us to remove the tumour at once; and certainly this may be effected in most cases, though with greater difficulties than in cases in which the polypus has passed down into the vagina. To admit at all of the removal of an intra-uterine polypus, of any considerable size, the os uteri must be previously very fully dilated by sponge-tents; and perhaps it will sometimes be found necessary, at the time of operating, to gain additional freedom, by dividing any obstructing band of the os or cervix that may not have been fully dilated by the tents. Afterwards, we shall require to proceed differently in different cases, in order to destroy or remove the polypus. We may only be able to accomplish this object by contusing and crushing the tumour. In the instance in question, I grasped the polypus, for this purpose, with strong lithotomy forceps. In another similar case, after fully dilating the os and cervix, I seized a large intra-uterine polypus between the jaws of a screw-propelled lithotomy instrument—invented for the purpose of crushing vesical calculi—and was enabled, by it, to crush and destroy readily the structure

and vitality of the included tumour. Occasionally, we may be enabled to divide the stalk of the polypus with a silver wire or ligature, acting on the principle of the chain-saw; or we may reach it with very curved blunt-pointed scissors.

"The instrument employed (in a detailed case) is a modification of one kindly sent to me by my friend, Dr. Sabine, of New York. I am told it has been successfully used by various American practitioners, for the removal of polypi in the vagina. The advantage which it possesses over the instruments of Niessens, Gooch, Davis, and others, in the removal of intra-uterine polypi is, that the screw power, with which it is furnished, enables us to use it with the power of a small chain-saw, for the immediate division of the pedicles of the polypi. And it is almost superfluous to observe, that if we can finish our operation, it will be much safer for our patient than leaving a rough instrument within the cavity of the uterus. The instrument itself consists of two parts, viz., two hollow canulæ, like those pertaining to the instruments of Niessens and Gooch; and of a second part, resembling the polypus instrument of Graefe of Berlin, with this difference, that it has a ring affixed to its top, of a heart-shaped figure, and intended, first, to receive the two canulæ, with their contained ligatures, and afterwards to serve as a point of resistance during the cutting action of the ligature upon the pedicle of the tumour. The canulæ and ligatures are first applied in the same way, and according to the same rules, as those of Niessens and Gooch. After the pedicle is encircled by the ligature, the two lower extremities of the canulæ and included ligatures are passed through the ring of the second portion of the instrument. This second portion of the instrument is then run up, with its ring surrounding the included canulæ, till it reaches the pedicle of the tumour; the projecting side of the ring being turned towards the pedicle. The canulæ are then slipped off, and withdrawn, leaving the wires or ligatures alone in the terminal ring of the instrument. Subsequently, these wires are twisted around, and fixed upon, the knob attached to the screw. Lastly, by moving the knob downwards, by the operation of the screw, the ligature is made to cut into and through the pedicle. [Plates of the instruments are given.]

"The preceding remarks, relative to the treatment of intra-uterine polypi, principally refer to these tumours when they happen to be of a large size. But uterine polypi are often too small to be removed by the knife, scissors, or ligatures; and yet these small polypi not unfrequently lead to severe and long-continued menorrhagia. From the analogy of hæmorrhoidal tumours, we know that the mere size of a polypus is not to be taken as any measure of its capability of producing hæmorrhage. Small vesicular, mucous, or cellular polypi sometimes grow from the fundus uteri, giving rise to considerable and long-continued hæmorrhagic discharge. I have preserved specimens of them from the dead subject, and have met with them in the living. They can hardly be properly termed polypi, as they are scarcely pediculated at their attachment, and sometimes short, but, in other cases, long and slender in their body. The following case may be cited as an illustration.

"Case. A lady, the mother of ten children, became irregular in her menstrual discharge during her forty-fourth year. At times it was wanting at the usual monthly periods, at others it amounted to menorrhagia. About a year after this irregularity commenced, such an amount of fluid blood and coagula escaped, as at first to lead, on her part, to some suspicion of miscarriage; but it continued to go on profusely for two or three weeks. At the end of that time, I visited her, with Mr. B. Bell and Dr. Malcolm. On examining the uterus, we found a small vesicular polypus attached to the inner surface of one of the lips of the os, and it was easily removed by avulsion. The discharge, however, was not abated in consequence, as we expected. A series of sponge-tents was then introduced, so as to open up, first, the cavity of the cervix (which was found free from additional polypi), and ultimately the cavity of the body of the uterus. When the distension of the whole uterine cavity was at last

completely effected, both Dr. Malcolm and I found that we could touch two or three small slender polypoid bodies, hanging from the very fundus of the uterus. I removed them cautiously from the surface to which they were attached, with the nail of the first finger. After this the hæmorrhage ceased, but some local treatment was required to cure the ulcerated state of the cervix. The polypi were removed in April. The patient went soon afterwards to spend the summer in the country, where she soon gained strength, and enjoyed much-improved health. I saw her lately. The menorrhagia had not recurred, but she still looked anæmic, having never recovered her colour since the hæmorrhages in spring.

"The most common site for the origin of small vesicular polypi, is the interior of the cervix uteri. In fact, the small cellular or vesicular form of cervical polypus, is infinitely the most common form of polypous disease of the uterus. These cervical vesicular polypi are generally of a small size, like a pea, or orange pip, and vary from this to the size of a hazel-nut. Sometimes they are sessile; and sometimes pediculated. Occasionally they are single, or they form a single complex cluster; but more frequently they are gregarious. Indeed, it is the rule rather than the exception to it, that when we find one, we shall find, on further search, that there are others, sometimes to the number of four, five, or six, springing from other points of the interior of the cervix, and not discoverable till the cavity of the cervix is dilated by a sponge-tent. When hanging from the os uteri, their stalk is sometimes so loose and long, and the small depending polypus is itself so small and soft, that it moves away before the finger in making a tactile examination; and one unaccustomed to this peculiarity, will not feel perfectly sure of the presence of such a polypus till the speculum is used, when the body of the polypus will be easily seen, generally of a cherry-red or purplish colour. Such polypi, though small, are often apparently the source of much menorrhagia and leucorrhœa, for they almost always co-exist with, and probably produce, some degree of ulcerative inflammation of the contiguous surface of the cervix.

"In trying to remove these small vesicular polypi of the cervix, it is, therefore to be held in recollection, that there are generally more than one present; and that, to ascertain this point with any precision, it is necessary to dilate and expand the cavity of the cervix with a sponge-tent.

"In more than one instance, I have found these polypi (when their pedicles were perhaps long and easily broken) come off, imbedded in the surface and foramina of the sponge, which had torn them off during its expansion. But, in twenty-nine out of thirty cases, more methodic measures are required for their removal,—as scratching them off with a sharp nail, seizing and tearing them off with polypus forceps, or dividing their stalks with a pair of scissors. If we can use the speculum, these modes of removal are greatly facilitated by the sense of sight. Indeed, if we require to use the polypus forceps or scissors, for the removal of these small polypi, guided by touch alone, we shall generally find the operation, though apparently simple in principle, one which is tedious and difficult to perform in practice.

"We find, in some cases, these vesicular polypi in all their stages of formation, from small shut cysts, up to pediculated vesicular tumours. When such is the state of matters, we can only remove those that are more fully formed, by the nails, scissors, or forceps. To effect a complete cure, we require other means; and for this purpose the *application of caustics* to the mucous membrane of the cervix answers every indication. Nitrate of silver generally proves too weak for this purpose, unless repeated very often, and combined with scarification of the mucous surface. We possess a far more potent and certain caustic for the purpose, and one that is perfectly manageable, in potassa fusa. The surfaces of the os and cervix, when small vesicular polypi exist, are often found to be the seat of chronic inflammatory ulceration; and sometimes the submucous tissue, and the structure of the cervix, is also the seat of chronic inflammatory hypertrophy and induration. When such a

combination exists, the potassa fusa is doubly useful, as its application at once destroys the polypi, and sets up a new and healthy action in the affected and morbid tissues of the cervix. I have described, elsewhere, its great value and mode of application in inflammatory induration of the cervix,[1] and the power we have of immediately arresting and limiting its action by the neutralizing effects of acetic acid. I need only add here, that I have now repeatedly found this caustic of the greatest possible use in obstinate and complicated cases of vesicular polypi of the cervix, such as I have above alluded to. In illustration of its effects, I shall cite only one instance, and that because it was a case which was peculiar in several respects.

"Case. On the 1st October last, I was called to see a lady who had been losing large quantities of blood for three weeks previously, despite of all the means which had been tried for its suppression. The patient's strength had become greatly exhausted. She was between forty and fifty years of age; was the mother of a family, and for some years past had suffered under occasional menorrhagia. Three years ago, a uterine polypus had been detected at Brussels, and afterwards removed in London, apparently with some difficulty, as the first physician, who attempted it, failed. Her present attack of hæmorrhage was much more long-continued and severe, than those that had occurred previously. Before being able to make a tactile examination of the uterus, I had to remove several large clots of blood lying in the vagina. I found the anterior lip of the os uteri very much enlarged, indurated, and roughened on the surface. By the speculum we saw this lip greatly enlarged, and dotted over with small pediculated red-coloured polypi like red currants; and the use of the mop showed them to be the source of the flooding. About a dozen of these small red polypi were within the field of the speculum, but others could be felt on the internal aspect of the enlarged lip. As it seemed hopeless to attempt to detach them all one after another by the forceps, and as doing so would not remove the suspiciously indurated and enlarged anterior lip of the cervix, I at once had recourse to the application of potassa fusa to the diseased lip itself, and melted it down, with the polypi attached, by decomposing upon it a couple of sticks of potassa, of above an inch in length each, and followed this immediately by the free and abundant injection of vinegar to neutralize the alkali. Subsequently, under the use of astringent injections and medicated pessaries, the surface took on a healthy cicatrisation, and her health greatly improved under the kind and able care of Dr. Anderson (of Jedburgh). I saw the patient in Edinburgh two months afterwards, on her way home to London. There were no remains of the induration or polypi. The uterus felt natural in size, and the surface of the cervix was entirely cicatrised. There has been no recurrence of the menorrhagia. The menses have been present once, but not in unnatural quantity."

OBITUARY.

Burns, Dr., F.R.S., the eminent and much respected Regius Professor of Surgery in the University of Glasgow, aged 74, drowned on board the steamer Orion, on 18th June, in her passage from Liverpool to Glasgow. This ill-fated vessel struck the rocks close to land, on a clear morning, and went down in a few minutes. The loss of life was very great; but probably all might have been saved, had there been a proper provision of boats or life preservers.

Crosse, John Green, Esq., M.D., F.R.C.S., Senior-Surgeon to the Norfolk and Norwich Hospital, and one of the Vice-Presidents of the Provincial Association, at Norwich, on 9th June. Dr. Crosse, acquired a well-earned reputation, not only in the provinces, but in London, by his numerous and valuable contributions to the advancement of science, published principally in the *Transactions* of the Provincial Association. His chief work was the "Essay on Urinary Diseases", for which he obtained, from the Royal College of Surgeons, their Jacksonian prize in 1833. Dr. Crosse was a member of several distinguished societies, both at home and abroad, and an M.D. of St. Andrews.

[1] Edinburgh Monthly Journal of Medical Science for 1847-8, p. 71.

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ORIGINAL COMMUNICATIONS.

ON THE MECHANISM OF TEXTURAL NUTRITION.

By RUDOLF HAAS, M.D., late Lecturer on Epidemiology in Vienna.

(Concluded from page 650.)

IX. FROM the preceding observations, we can understand the cause of the different characters of the exuded matter in inflammation and in congestion; the product of congestion being non-fibrinous, while that of inflammation contains much of this substance. Pathologists have ascribed this phenomenon to different *dyscrasies*, which, according to the preponderance of fibrin or albumen in the exudation, they have termed the fibrinous or albuminous dyscrasies. These are only hypothetical, and are incapable of demonstration, either *à priori* or *à posteriori*. The retention of the fibrin in the blood, and its free exudation through the pores of the vessels, depend, as I have already shewn, on the state of distension of the capillary vessels, and upon the various substances which are mixed with the blood. If the blood contain substances which impede the formation of fibrin, as is the case in typhus and other toxæmic diseases, the fibrin must decrease, and the exuded matter cannot contain much of it. The amount of albumen in the exudations also depends on the distension of the vessels, and on the quantity in the blood. In cases where the blood has not been poisoned, the exuded matters will contain a quantity of fibrin, proportionate to the distension of the vessels of the inflamed part. Hence all those causes which assist the distension of the vessels, also promote the exudation of fibrin. In persons with much blood, containing many corpuscles, and with increased action of the heart, an exudation of much fibrin is produced; while in feeble individuals, possessing a small quantity of blood, poor in corpuscles, and in whom the heart acts feebly, and the vessels are not distended, the exudation will contain but little fibrin, although the blood be rich in it. When some poison impedes the formation of fibrin, as in typhus, etc., the exuded matter contains much albumen.

In winter, the body generally contains more blood, and the exudation

is more fibrinous, from the distension of the vessels by the greater quantity of the blood. In summer, the body contains less blood, the vessels are less distended, and the exuded matter is poor in fibrin. In childhood, where a great part of the blood is employed in the evolution of the organs, only a small quantity remains in the vessels, as is proved by our finding it only in the larger veins and in the heart: the matters exuded contain very little fibrin, the vessels being very little distended. Moreover, the blood in the child contains a smaller proportion of fibrin than that of the adult, on account of the greater amount of vegetables in the food.[1] In chlorosis, in spite of the presence of much fibrin in the blood, the exuded matters contain but little of it. The reason of this is the non-distension of the vessels, from the deficiency of blood-corpuscles. In typhus and other toxæmic diseases, the exuded matter contains very little fibrin, the blood being poor in it; but it contains much albumen. But the condition of the vessels has also a great influence on their power of distension, and hence on the quality of the exuded fluid.

X. From the preceding observations, the following practical rules may be deduced:

A. In all diseases, where there is an indication to increase the penetration of the blood through the pores of the vessels into the parenchyma of the organs, we must use means to augment the quantity of the blood and of its corpuscles, the activity of the heart and large vessels, and the animal heat.

The quantity of the blood is increased: *a*. By taking a large quantity of aliment; either by the stomach, if it be able to digest a sufficient amount; or by nutritive baths and enemata. *b*. By the ingestion of a large quantity of water, either by drinking, or by enemata. Although the water is soon removed by the kidneys, it must in any case first enter into the blood-vessels; for it is unreasonable to imagine the existence of *viæ clandestinæ*, leading directly from the stomach to the kidneys. While, then, the water is in the vessels, these are more distended, and a larger amount of the nutritive part of the blood passes into the tissues. That water remains for some time in the vessels, and is not immediately removed by the kidneys, can be proved from the following experiment. If one animal be bled six hours after drinking, and another only half-an-hour after, the blood of the latter will be found much more watery than that of the former. The retention of the water in the blood, for some time previous to its elimination, is also proved by the circumstance, that a sweat breaks out on the surface of the body, after drinking several glasses of water; and also by the fact, that animals will survive for some time, when supplied with water alone. In the latter case, it can only act by increasing the quantity of the blood.

The number of blood-corpuscles is increased by the use of iron; as is proved by the observations of Andral and Gavarret.

The activity of the heart and of the vessels is increased; *a*. By exercise. This is proved by the well known circumstance, that in violent motion of the body, the activity of the heart is much increased, the

[1] Lehmann. Physiolog. Chemie. 1842. Bd. i, p. 194.

vessels are more distended, and a sweat breaks out on the surface of the body. *b.* By the use of spirits and of various other stimulants.

The temperature of the body is increased by means of warm clothing, by warm baths, by warming the air which surrounds the body, and by friction.

If one of the forces which assist the exudation of the nutritive part of the blood be diminished, its deficiency must be compensated by the increase in intensity of the others. Hence, after losses of blood, we administer spirits with water, apply friction, and employ means for producing warmth : we also give iron, and use baths containing nutritious matters, and advise the patient to take exercise, if he be not too weak. We follow the same plan after long abstinence from food, and in convalescence from diseases of long standing ; and the same thing is to be done in chlorosis. The asphyxia produced by cold, arises from the want of nutrition ; hence the same remedies are to be employed. In these cases, water, spirits, artificial warmth, iron, and exercise, act as equivalents to food. This may be witnessed in animals, confined to the use of water, which are revived from their apathetic state by artificial warmth ; in drunkards, who live on a very small quantity of food ; and in chlorotic patients, who gain strength from the use of iron, and from exercise. After loss of blood, spirits are the best remedy, as they seem to cause an increased flow of blood in the vessels of the brain, which is thus kept in a sufficient state of stimulation, in spite of the small quantity of blood in the vessels.

It will be in place here to answer some objections to the use of spirits, from the effects, real or supposed, produced by them in drunkards. In these persons, the blood is thick and dark-coloured. The thickness arises, not from the coagulation of the albumen by the blood,[1] as Budge and others suppose, but from the large quantity of fat contained in the blood. The dark colour has its rise in the impaired power of the heart and lungs, by which the circulation is impeded, and the carbonic acid is not sufficiently removed from the blood. But all this is far from being a legitimate object of dread, in the moderate use of spirits.

Remedies which increase the exudation of the blood are also to be

[1] The assertion of Budge (*Allgemeine Pathologie*), that spirits produce coagulation of the albumen of the blood while in the body, is opposed to experience. They cannot produce this effect in the living body, provided their quantity be kept within certain limits. If they generally had this effect, they would be most active and dangerous poisons ; yet we find persons who habitually use them, living to a great age. Orfila, having injected alcohol into the veins of animals, found the blood coagulated in the immediate vicinity of the injection, while that in distant parts of the body remained fluid, although as much in contact with the spirit as if the latter had been drunk. We can never assert that substances always produce the same effects in, as out of the body. There are certain circumstances in the living organism, with the nature of which we are not yet acquainted, which are capable of impeding and modifying the chemical action of some substances. The aggregate of these modifying circumstances is termed the *vital force*. As an example of this, the blood, when removed from the body, is decomposed by oxygen into carbonic acid, ammonia, hydrosulphuric acid, and water ; but in the living body, carbonic acid, urea, uric acid, and water, are the products. The oxygen always acts according to chemical laws ; but there are certain circumstances in the body, which compel it to produce urea and uric acid instead of ammonia. If we knew what these are, we should be able to produce urea and uric acid. We can imitate digestion ; but we must use pepsin taken from the stomach, because we are not able to make it artificially.

employed in catarrhal inflammation. The process which here takes place is as follows. Distension of the vessels of the mucous membrane being produced by any cause, the blood stagnates in the vessels: but as it is pressed on by the blood, which is still flowing, it is obliged to pass through the pores of the vessels, as far as the cells of the epithelium, by which it is prevented from passing out. After some time, the epithelium becomes relaxed, and the thinner part of the blood is enabled to exude through its cells, in the form of a thin mucus. Subsequently, the epithelium, being quite spoiled, is thrown off, and the thicker part of the exuded blood escapes. When the part is thus freed from the exudation, the pressure is removed, and a new epithelium is formed; after which the part is restored to the healthy exercise of its functions. The sooner, therefore, the epithelium can be removed, the sooner recovery takes place; and this occurs in proportion to the rapidity with which the blood in the congested vessels can be caused to exude. In this first stage, spirits, or other stimulants, warmth, cold water, or vigorous exercise, are the best remedies. But when the thickened mucus has begun to appear, shewing the removal of the epithelium, remedies of another character are indicated.

B. In all cases, where exudation is to be retarded, remedies of an opposite character to those before mentioned must be used. We have to diminish the quantity of blood and of blood-corpuscles, the activity of the heart and large vessels, and the temperature of the body.

The quantity of blood and of blood-corpuscles is diminished by bleeding; and we have no means which act so rapidly in decreasing the proportionate quantity of the latter. The blood may also be diminished in quantity by increasing the secretions. All remedies which act as stimulants to the activity of the secreting organs, diminish the quantity of the blood. These include laxatives, diuretics, diaphoretics, emetics, and sialagogues. All these remedies diminish the blood, but do not produce a decrease in the corpuscles. From the effect of diuretics and diaphoretics, the blood loses only water and saline matters; by emetics, purgatives, and sialagogues, it also loses a portion of albumen.

The activity of the heart is diminished by some narcotics, as digitalis, etc., and by acids. Cold has the effect of increasing the contraction of the vessels, and of diminishing the activity of the heart. Tranquillity is also necessary to be observed.

Bleeding, which diminishes the blood and its corpuscles, is to be employed in all inflammations, when the exuded matter cannot be thrown out, but not in individuals, who are exhausted and very much weakened. By this operation, we not only diminish the exudation, but we render it more watery, and capable of dissolving the old exudation, so that it may be absorbed. The vessels are not so much distended, and thus less albumen and fibrin, and more water and salts, penetrate into the parenchyma. But in exhausted and weakened persons, where there is only a small quantity of blood, and the fibres of the tissues are relaxed and soft, bleeding may be followed by dropsy, from the exudation of water and saline matters through the lax fibres. Dropsical symptoms appear generally after the subsidence of fever: because, while the fever is active, the energy of the heart causes the vessels to be kept distended, so that the exuded matter is albuminous, and

is too thick to pass between the fibres of the tissues. But when the fever is past, the activity of the heart subsides; and, the quantity of the blood being small, the vessels are very little distended, so that only water and saline matters exude, and, by gravitation, tend to the lower parts of the body.

The remedies which increase the secretions and excretions act altogether in another way: particularly diuretics and diaphoretics, by the action of which the blood loses water and saline matter. The blood becomes thickened, like cholera-blood. In such circumstances, scarcely any water passes through the pores of the vessels into the parenchyma of the organs. The effect, therefore, is quite opposite to that produced by bleeding.

It is easy to understand how, though bleeding and evacuant remedies both diminish the quantity of the blood, they cannot be always used in the same circumstances. In inflammations with fever, in robust and athletic individuals, where the exudation contains much fibrin and albumen, and is deficient in water, so that it requires a new watery exudation to dissolve and absorb it, bleeding, which promotes such an exudation of water, will be most useful. But evacuants, which impede the exudation of watery matter, protract the disease. But in inflammation without fever, or in exhausted and bloodless individuals, where the exudation is not thick, and wants no other exudation to render it soluble, bleeding is either superfluous or dangerous, while the evacuants mentioned above are useful. The same is the case in inflammations of those parts, where the exudation is in general only watery. In the same way, evacuants are remedies against dropsical diseases, by diminishing the exudation of water. The water which has been already exuded will be absorbed, if the lymphatic vessels are in a state of health. The lymphatic vessels, after having absorbed the exuded serum, bring it back to the blood; and so the blood becomes thin in spite of its losing much water by the use of evacuants. But if the lymphatic vessels of the part, where the inflammation is, are unable to absorb the exuded liquid, and to return it back to the blood, this must become, by the continuous use of evacuants, very thick, so that very little can pass through the vessels. The individual must become weak, and the lymphatic vessels of the whole body, having no blood to absorb, must absorb the fat of the organs; and this is the reason that, under the use of evacuants in dropsy, if the dropsical tumour do not decrease, the fat in the whole body gradually disappears. Evacuants act most beneficially in all chronic inflammations. In these diseases, the vessels are generally unable to contract: but the blood is not entirely stagnant. By the use of evacuants, the quantity of blood is diminished, and the vessels are less distended, so that they have an opportunity of being restored to their functions. Evacuants are to be given in cases of hypertrophy, especially in that of the heart. Bleeding is sometimes beneficial: but it is liable to induce dropsy, which does not follow the use of evacuants.

I do not desire to be a panegyrist of purgatives, as I consider that they are not only used sufficiently, but even too often, and without sufficient reason. But I think that diuretics, and probably diaphoretics, should be more used than they are at present. The perspiration consists of

water and carbonic acid, and amounts to thirty-four ounces in twenty-four hours; being the same quantity of water as is removed by the kidneys.

If the normal perspiration, which disappears without being noticed, amounts to thirty-four ounces, it is obvious, that the increasing perspiration, which appears in the form of sweat, must be in great quantity. We are therefore able to diminish the quantity of blood in a very considerable degree by diaphoretics. This is the reason why we feel very weak after sweating any time, for the quantity of blood is very much diminished, and the same effect is produced as after a large loss of blood by bleeding.

I think the cold water-cure acts merely as a diaphoretic. The vessels of the cutis being first contracted by the cold, become, by being excited, very weak, as is the case after every application of a strong stimulus. They become lax and distended, and a great sweat follows; during this, the cold bath is repeated, and the vessels, which are yet not quite restored, are again excited. The relaxation of the vessels must now occur to a greater degree than before; and the sweat does not cease for several hours. Besides this, we must remember the exercise which the patients take in climbing hills, etc. The vessels of the cutis are relaxed to such a degree, that even a stasis of the blood takes place in some parts of the cutis, and spontaneous blisters are produced. Warm bath produces relaxation of the vessels of the cutis, but not in such a marked degree as cold applied in the way just mentioned. Sweating baths act in the same way. By these different kinds of baths, we are enabled to rapidly diminish the quantity of blood without danger of dropsy. They have doubtless other effects; but the diminution of the quantity of blood is the first.

CASE OF SCARLATINA MALIGNA: ABSCESS IN NECK, EXTENDING OVER RIGHT PECTORAL MUSCLE: DEATH FROM HÆMORRHAGE FROM ULCERATION OF INTERNAL JUGULAR AND BRANCH OF SUBCLAVIAN VEINS.

By R. J. HALE, M.D., Extra-Licentiate of the Royal College of Physicians; Physician to the Islington Dispensary.

Case. On the 5th of February, I was called to attend J. V., æt. 8, the son of a gentleman. He had been indisposed for two days, complaining of slight sore throat and pyrexia. On examining the throat, I found it congested, and almost black; the tonsils and uvula were much swollen, and covered with a tenacious secretion; the skin was dry and hot; the pulse 130; the tongue greatly furred, white and creamy, with enlarged papillæ. He had not slept for two nights, and his breathing was laborious. An emetic of tartarized antimony with ipecacuanha was given; this produced slight vomiting, which was followed by profuse purging. Calomel with ipecacuanha, followed by a saline draught, were administered during the rest of the day; leeches were applied to the throat. 8 *p.m* The throat was relieved, and he could breathe more freely.

February 6th. There had been great restlessness during the night. There was ulceration of the uvula and tonsils as large as a fourpenny-piece, with great fœtor; the tongue was drier; the skin harsh and hot. The sloughs were partially removed by a sponge dipped in a solution of nitrate of silver. He was ordered to have a hot bath at night, with a saline mixture containing chlorate of potass; also a gargle of hydrochloric acid and chloride of soda. An embrocation of poppy-heads and sal-ammoniac was ordered to be applied, by means of a hot flannel, to the glands of the neck, which were hard and painful.

7th. The patient passed a sleepless night; the uvula had sloughed, and portions of the tonsils were removed on applying the sponge; the urine was found to be albuminous for the first time; the pulse was rapid and weak; the tongue dry; the strength was much reduced. Quinine was prescribed, and he was ordered to have beef-tea, and milk with isinglass, and wine occasionally.

8th. The tonsils were entirely removed, with portions of the arches of the palate, leaving a ragged edge. The patient had some refreshing sleep. He complained of no pain in the throat, but there was slight uneasiness on pressure, in the right sub-clavicular region. On examination, slight fluctuation was perceived. An exploring needle was passed, and, subsequently, a small opening with a lancet was made. About a pint of healthy pus was evacuated, which continued to flow in greater or less quantity until the 13th of the month.

13th. On this day, a large slough came away, and the discharge then ceased. The throat had not, since the last report, caused any uneasiness; the redness had entirely disappeared, and no pain had been complained of; the urine had greatly increased in quantity, but was still slightly albuminous.

14th. The countenance was much improved, and the patient felt a desire for food. The wine was ordered to be discontinued.

15th. The patient's health was progressing rapidly; the skin was moist, the urine abundant, without albumen, and presenting a large deposit of lithates. He was ordered to have a mutton chop.

18th. (9 *a.m.*) He was progressing, and his strength was much increased. (10 *p.m.*) I was summoned hastily to the little patient. A fit of coughing had caused the cicatrix of the abscess to give way, and about twelve ounces of blood gushed through the wound. The hæmorrhage was restrained by pressure, and by a compress of lint, held down by strapping, and a bandage was left on the part.

19th. The countenance was rather blanched; he had slept well; there had been a slight oozing of blood during the night. A mixture of gallic acid was prescribed, and he was ordered to have port wine, etc.

24th. (9 *a.m.*) There had been occasional oozing of blood since the last report, together with a small amount of pus, the whole averaging from two to three ounces in the twenty-four hours. The pressure had been kept up with the compress and strapping as before. Notwithstanding this drain on the system, the child was progressing; he slept well, and was gaining strength. The chief difficulty was to restrain him from exertion. (9 *p.m.*) There had been a little more blood than usual, and no pus. In consequence of the difficulty of keeping the strapping adherent, I plugged the wound with a long thin strip of lint,

without any loss of blood. I had not left the bed-side above a few seconds, when the child, in a paroxysm of rage, pulled the lint out of the wound, thus tearing it open; above a pint and a half of blood gushed out in a stream. With the aid of some ice, which was on the table, and by pressure, the hæmorrhage was soon restrained. A small plug of lint was afterwards introduced, and compresses were applied as before.

25*th*. He was much reduced by the hæmorrhage; the pulse was small, quick, and thready; the countenance blanched; and there was a constant oozing of blood. My friend Mr. Anderson now saw him with me, to consult as to the propriety of any surgical interference. On removing some of the plaster, we could see the sac gradually fill with blood. From the state of the little patient, the uncertainty as to what vessel was ruptured or ulcerated, and other difficulties which surrounded the case, we determined on continuing the pressure as before. He complained of slight pain in his right knee.

26*th*. Mr. Anderson again saw the case, but decided that no surgical interference would be safe. On my visit in the evening, the patient complained of cough, and urgent dyspnœa, amounting to orthopnœa. On percussing the right side of the chest, I found dullness in the lower part, with absence of the respiratory murmur; the upper portion was clear. From the pain, and difficulty of moving him, a further examination was not made. He was now placed on a water-bed, his hips and sacrum being a little sore. He complained of pain in his right knee, which was much swollen. The urine was scanty, albuminous, and dark coloured. About ʒiv had been passed during the last twenty-four hours. A catheter was introduced, but the bladder was found empty. It was with much difficulty that he could be persuaded to take anything excepting water, and that in very small quantities. He was very irritable, and the slightest exertion caused an increase of the hæmorrhage.

27*th*. There had been slight hæmorrhage since my last visit; the voice was weak; the pulse 140; there was slight subsultus; the dullness on the right side of the chest was found to be increased to about an inch above the mamma. That side was immoveable during inspiration, except at the apex. The intercostal spaces were bulging; the urine was scanty.

28*th*. He had slight cough when he changed his position; the breathing was easy; he had slept better, and his countenance had improved. The urine was much more copious, high coloured, but contained no albumen; the right knee was swollen and painful, the left slightly so.

March 1*st*. He passed a restless night. In consequence of picking the edge of the plaster, it became detached from the skin; a gush of blood, which saturated the bed, followed, and the little sufferer expired shortly afterwards.

Sectio Cadaveris, Twenty-eight Hours after Death. *External Appearance*. The body was much emaciated; the right side being much more prominent than the left. Immediately above the opening of the abscess, were two other openings, formed by sloughing of the integument, and a third one above the clavicle. On carefully dissecting the integument from the pectoral muscle, the abscess was seen to extend

over that muscle into the axilla, thence upwards over the clavicle into the neck, as far as the mastoid portion of the temporal bone, passing along to the angle of the jaw. The pectoral muscle was much softened, and, in parts, reduced to a pulpy mass. A clot filled up the axillary space, and there was another clot above the clavicle. On removing the latter, there was seen the ulcerated opening of a branch leading into the subclavian vein; its mouth was partly closed by a clot. On making pressure on the sheath of the deep vessels of the neck, a jet of blood issued. This was found to proceed from an ulcerated opening in the internal jugular vein, with thickened and everted edges; it was somewhat square in shape, and rather more than half an inch in length. In the opening was a clot of fibrine, almost entirely filling it up, and extending upwards and downwards about four inches.

Thorax. The right pleural cavity contained upwards of a quart of sero-purulent matter. The lung was pressed against the back part of the chest; it was solid, impermeable to air, and not more than three-fourths of an inch in thickness: in cutting into it, it resembled flesh. The left side was healthy. The *Pericardium* contained an ounce of sero-purulent fluid. At the base of the heart was shreds of lymph, binding it loosely to the pericardium, as well as other portions floating in the fluid. The heart was otherwise healthy; the right ventricle contained a clot of fibrin. The *Kidneys* were considerably congested, and somewhat soft. The *Right Knee* contained rather less than an ounce of pus. On dissecting into the muscles of the thigh, pus was found in the cellular tissue between them, and also among the muscular fasciculi. On examining the vessels, no trace of phlebitis could be seen.

Remarks. In relating the preceding interesting case, my object has been not only to direct attention to the rapid destruction of parts, which takes place during some forms of scarlatina, and the insidious mode in which ulceration proceeds under the apparent well-doing of the patient; but to shew that the renal affection is frequently among the primary phenomena of the disorder.[1] In this case, as in ordinary "Scarlatina maligna", the eruption was entirely absent; there was albumen in the urine on the third (?) day; the throat and the kidneys were affected at one and the same time; and we may reasonably infer from these facts, that the presence of excrementitious matter in the blood gave intensity to the general symptoms.

In looking over the case, the first thing that strikes us is, the rapid destruction of parts; for we find that from the first evening to the third morning of my attendance on the patient, a period only of fifty-six hours, ulceration had commenced, and had proceeded so far as to remove the uvula, tonsils, and the soft and portions of the hard palate: during this time also, pus had been forming, and making its way between the muscles of the neck, until an abscess was found, on the fourth day of my attendance, pointing in the sub-clavicular region. On the ninth day of attendance, the slough came away, and the little patient rapidly improved until the evening of the fourteenth day, when the first hæmorrhage took

[1] See papers entitled, "The Kidney in its relation to Scarlatina", by James Miller, M.D. *Lancet*, August 1849. Also republished in a separate form; and reviewed in this Journal for March, 1850, p. 276.

place. As to the cause of the last-named occurrence, it would appear, either that the ulceration must have been progressing during the whole time, or, that the cellular texture about the vessels of the neck had been removed by the destructive action of the disease, and that the vessels themselves only required some slight increase of distending force from within, as for instance, during a violent fit of coughing, to rupture them. The serous inflammations are clearly secondary to the scarlatinal nephritis. Dr. Golding Bird mentions, that "the train of effects following scarlatina, are almost all referrible to the retention of the nitrogenized elements of urine in the blood"; and adds, that "the recognisable sequelæ of scarlatina, referrible to this category, are characterized by the tendency to the setting up of serous inflammation, especially of the pericardium, pleura, and arachnoid". These remarks are borne out in this case; for we found, on the 26th, that serous inflammation had taken place, with effusion of pus into the cavity of the pleura, as shewn by dullness of percussion, and absence of respiratory murmur about the lower part of the right side of the chest. I may here remark, that the dyspnœa was most urgent, when only a small part of the lung was rendered unfit for its office, during the first few hours of the effusion: but that the dyspnœa passed off, or nearly so, when the whole lung was destroyed. This was an instance, of not very unusual occurrence, shewing that the system does, under certain states, accommodate itself to the impeded state of respiration or of other functions.

The presence of pus in the knee-joint is remarkable. An examination of the veins in the neighbourhood, did not reveal any inflammatory appearance. May not the pus have found its way through the ulcerated opening of the internal jugular, and have deposited itself in the knee-joint, without any phlebitis? Or may it not have been a secondary inflammation, analogous to the serous inflammation within the cavity of the chest?

There is a case narrated in the *Edinburgh Monthly Journal* for March 1843, by Dr. Alexander King of Glasgow, which he attended along with Mr. John Brown of that city, in November 1842. The description of the case is illustrated by a drawing of the parts, as seen on dissection. Dr. King's case resembled mine in some respects, and occurred after scarlet fever. The patient was progressing favourably, after a small abscess had been opened in the neck. Hæmorrhage took place, without any evident cause. Pressure on the carotids did not alter the state of the tumour; but it could not be effectually applied, as cough was induced from the situation of the tumour. The post-mortem examination shewed, on cutting through the substance of the parotid gland, that nearly an inch of the external wall of the internal jugular vein, commencing two lines below the base of the skull, and extending downwards, had been completely removed, as if by a sharp scalpel.

3, Finchley Road, St. John's Wood, June 15, 1850.

ON MEDICAL OBSERVATION.

By R. G. MAYNE, M.D., Surgeon to the Lock Hospital, Leeds.

The familiar word used as the heading for the following remarks, has a fuller and more complete substantive meaning, than is assigned to it in ordinary acceptation; for it signifies not merely a looking-at, or noting—a note, or remark, but a watching diligently and curiously with the eyes of the mind and body *(oculis mentis et corporis servo)*, a marking and weighing. In this latter and more comprehensive sense, it is here employed. It will not, surely, be held presumptuous to assert, that the distinction pointed out is not always regarded.

Our profession's true objects, and the successful administration of remedies, are so dependent upon the due exercise of observation, that little, it may be supposed, need be said to establish its importance in the medical man's career; and yet, though such supposition be ever so generally entertained, very slight consideration will shew how frequently the belief it implies, is *not* acted on. From earliest medical instruction, we are taught not only to listen attentively to the patient's own, or his friends' uncertain and often erroneous history of his ailments, but to weigh and consider for ourselves each connecting circumstance, to scrutinize the condition of each organ, sense, and faculty, the heart, lungs, liver, kidneys, intestines, the tongue, the eyes, the skin, the voice, speech, perception, judgment, intelligence, etc., and from a close and busy, though silent observation of these, their functions, secretions, powers, and operations, to arrive at well-drawn conclusions whereby to pursue and regulate the treatment we adopt. Peaceful may that man's breast be, who can always reflect on having diligently thus performed his duty to his fellow-man, although in vain.

Many causes interfere with, or are allowed to hinder the exercise of, observation. The medical student, by his position as such, is, in too many instances, careless of the instructions given in the class-rooms, trusting to get all up in time for his *examination;* and if he thinks, beyond the hour of their being addressed to him, of those more particularly alluded to, he does so, as of something connected with the future, when he shall be in practice for himself, but with which at present, when bothered with so many things, and *only* attending dispensary patients, he need not trouble himself. In this way, habit, which so rules us all, is imbibed in one of its objectionable forms—that of slurring over an essential duty, of avoiding the trouble of thought and reflection, by selecting for treatment some prominent sign or symptom, instead of the diseased condition it indicates, and without any reference to its anatomical relations, its physiological dependence, or pathological tendencies—of jumping to a conclusion from hastily snatched impressions. Temperament and mental incapacity may go far to produce the same result; and, in either case, the young practitioner will enter upon his duties an empirical symptomatist, a mere routinist, prepared to do as he has seen done in similar cases, but without the wit to discriminate, or to know when or where the supposed similarity fails. Such he may

continue to be through a long life, unless the conviction of his culpable neglect and its disastrous consequences stir up within him a better resolution, and there dawn upon his mind the light of an imperative necessity for inquiry, oral, visual, and mental, and for earnest, deliberate reflection upon all that he has heard, seen, and thought,—for these are the true constituents of observation.

The too prevalent existence of this habit of neglect cannot be denied, while the proneness to its indulgence, even in the most observant, can be detected on a little self-examination. The practitioner may have employed, as it seemed, his best powers of discernment in forming his diagnosis, and in accordance therewith, may have treated disease assiduously on the legitimate principles of his art, through a protracted term, yet without any marked improvement in the condition of the patient. Disappointed, wearied, and annoyed, he at length concludes the case to be anomalous; and either by his own desire, or that of the sick man, or his friends, another is called in consultation, who after examining for himself, and ascertaining the few particulars of treatment, perhaps by a single suggestion, unravels the mystery. The former, internally blaming himself for having suffered so plain a point to escape his notice, becomes conscious of having allowed himself to be misled in giving too great weight to some mere symptom; resolves to watch more closely, and to keep this instance in view on the occurrence of any other resembling it; forgetting that this resolution strongly tends to the maintenance of the very habit it professes a determination to overcome. But the circumstances might have turned out differently; the practitioner called in consultation might himself have been empirical, and have satisfactorily vouched for his respected brother's talents and acuteness; the patient might have lingered and died in the happy confidence of an anomaly, and even if matters were at last made very plain by a *post-mortem* examination, all might have been arranged and conveniently explained.

Such an instance, it may be remarked, shews the benefit which may be obtained from a consultation, in cases of doubt and tedious progress. Not that there lies that infallible resource for the dying, which seems to dwell in the popular imagination, in a formal presence at the bedside, of the "M.D." or "doctor of advice", as he is fancifully termed by the vulgar, apart from all notions of status, acquirements, habits, and experience. But when the mind, embued, perhaps in the outset, with special views not easily to be relinquished or changed, becomes jaded with long watching and ineffectual effort, grows uneasy, doubting, and self-accusing, how gladly it seeks and finds relief in the fresher judgment of some clear, calm, well-trained, and observant intellect, no matter whether of one styled "physician", "surgeon", "general practitioner", or simple "apothecary". There is no special virtue in walls of stone or of brick, nor superiority in the distinctive parchments vended within them, provided only they be honestly dealt out. The man, his mind and intellect, are what the sick have to do with; not his license, neither its source, nor its cost.

But whatsoever the causes which produce neglect of the exercise of observation, we may feel assured, that according to our consciousness of

its importance, (and what man capable of thinking can be ignorant of this?), so is our responsibility for its neglect. Simply to read the expression of such a sentiment, carries little force, attracts small regard; for the very dereliction, a censure of which is implied in its terms, precludes its being properly received, or provokes its rejection altogether. Still will the truth remain, however, in the integrity of its momentous import. No mere question of professional etiquette is concerned; no single act of petty rivalry; no silly point of precedence, as to grade or status; no foolish pride, arrogant assumption, nor burning jealousy; nothing less considerable than the preserving of a life, or of health, entrusted for a time to our care. How greatly may the issue affect the interests of many for the present; how very greatly those of at least one for the future.

It will be conceded, that most of us are inclined to practise empirically, in greater or less degree; that is, that when we happily succeed in a marked manner by a particular mode of treatment in one case, we are apt, perhaps from a natural addiction to think well of ourselves and our proceedings, to prescribe, or adopt the same course, during the ascendancy in our estimation of that kind of treatment, in all other cases which can be construed into an analogy. Nor can it have failed to strike any one as wonderful, that there always occur a number of cases about the same time, so very like each other, that we seem to have nothing to do but apply the same remedy. It may indeed be said in explanation, that many affections are dependent on atmospherical and other general influences, and that, therefore, it is exceedingly probable that several similar instances of disease may occur about the same time, nor need it surprise that, in these, the same remedies should be indicated and prove suitable. The reasoning is just, but is applicable only to a certain extent; for allusion is made not only to epidemic diseases, but to those that are sporadic in every variety, and even comprehends hidden surgical disorders, cancers, strictures, tumours, ulcerations, etc. We thus perhaps avoid a little trouble, and, not unlikely, flatter ourselves with the pleasant conceit that we have hit upon something valuable, in the way of discovery in the symptoms, or in the treatment of a certain class of maladies—a conceit which we reluctantly abjure, only when some palpable example of non-obedience to our fancied specific evinces the danger as well as absurdity of indulging, however slightly, in the whim of a universal medicine. So well-founded is this fact, that it is no unusual thing to remark physicians in extensive practice, who introduce for a period into almost every prescription they write, some favoured item of the *materia medica*, or over-rated pharmaceutical novelty: or to find surgeons setting their professional affections upon the rectum-bougie, or the uterine sound, for which, or the like, they, during a season, meet constant occasion.

Special examples of this aptness to empiricize, to the exclusion of any attempt at observation, and consequently to the neglect of the only right means whereby the sick are to be healed, might now be offered; but these will readily present themselves to recollection in individual experience. There is one, however, appallingly memorable,—like some huge monster, that lately stalked among us in open day, scattering terror

and death, and whose shadow has scarcely yet passed away,—which may be more particularly noticed.

It were idle to detail the so-called remedies recently reputed as curative of cholera. We may better indicate the truth, by asking what remedies were not tried and severally vaunted by their proclaimers as specific, from chloroform and oxygen, back through the range of the *materia medica*, to the Coffinish dose of cayenne and ether, down, down to very quackery, homœopathic and hydropathic, drops, powders, mixtures, and nostrums innumerable? And was there one of the entire catalogue, that deserved the commendations heaped upon it by its patrons, the deceivers, or the duped? Experience solemnly declares, not one! Because cold—an icy-coldness—was present, and diffusible stimuli were known to excite warmth, brandy was "poured" into the stomach; because pains and torturing cramps were suffered, opium was liberally administered; because thirst was urgent, drinks were given in profusion; and because the fluids were largely evacuated, cold water was sent down in gallons to supply their place, but only to be thrown back with a characteristic accession to its quantity. In all this, was there not the very perfection of empiricism? The proportion of deaths in many districts was excessive. Who shall truly say, how many of these were the result of uncontrollable disease, or only the natural consequence of disease uncontrolled, because uncombated, nay, left to run riot among the helpless, defenceless sick, by the non-application of proper remedial means, by their too late application, or by the deceptive administration of mock-cures? These last were everywhere thrust upon the attention of the ignorant by base, life-pandering, quack-druggist compounders, and others, non-medical, but vain and presumptuous, who having *seen* cholera abroad, undertook to cure it, forsooth, at home, with no other qualification for the purpose than the regnant nostrum of a former day.

Even with calomel—the only substance which seemed endowed with some degree of power to check the devastation—the failures were dishearteningly numerous; more so, indeed, than is to be accounted for by the difference of circumstances in various cases, such as lateness in having recourse to the remedy, deteriorated constitution from other diseases, depraved habits, etc. The heavy amount of loss of life in certain districts, as compared with others, suggests serious and painful reflections as to its causes, some of which were, unhappily, palpable enough to the commonest apprehension. But, from the observation of Cholera, whether left to its own course, or combatted by medicines, much was learned of its character and natural history; while by pursuing the same exercise with regard to the various modes of treatment, judicious or injudicious, our knowledge of the disease, though far from being perfected, must have been improved.

In reference to the particular fact which has led to so lengthened a digression, an observation, which was amply verified afterwards, occurred to my mind, and probably may have presented itself to others, although in none of the numerous experiences detailed, or theories propounded, which have come under my notice, has it been alluded to. It was the very marked distinction in the issue, between patients in cholera, who

were of a calm, firm, enduring temperament, or who had courage to bear, with martyr-like patience, the tortures of parching thirst and agonizing cramps, the sensations of a leaden apathy, slowly, surely, stealing "upward and upward", the terrible sense of semi-death—and those of an excitable, restless, and irritable habit, who obstinately disregarded all entreaties to keep perfectly still; who, with the most earnest warnings of certain dissolution as the consequence, reiterated in their ears, would yet heave and toss themselves about, on every racking impulse of pain, to the utmost of their power. This is not the place to give cases in illustration, but they were numerous; the former, in many instances, recovered; the latter, never—though, to all seeming, both had the disease in equal degree of severity, and both were treated alike. So surely did the distinction appear, that the result, favourable or fatal, could with general exactness be prognosticated. Is there not something here for physiological and pathological consideration?

Observation constitutes the most valuable attribute of the medical practitioner; it is at once the calm investigator and the eager promoter of *Science*. It forms the essential means by which experience is rendered profitable; the unfailing source whence come knowledge, wisdom, and professional skill; the element, as it were, which sustains, aye, and sometimes raises to dazzling intensity, the steady flame of the discoverer's lamp; but also, it is his strongest, his paramount duty. How grave the consideration, that, through its neglect, human life may have been lost! And who is there among us that, looking back upon his arduous course, knows no cause of regret, and truly feels that he himself is not chargeable with some instance of neglect of observation? The circulation, vaccination, the diastaltic nervous system, the application of the stethoscope, the special uses of ergot, of quinine, of iodine, and cod-liver oil—each important discovery, or just adaptation of remedial means, has been the product of persistent and untiring observation. Great, then, is the stimulus thus presented to intellectual exertion, in every professional relation in which we may be placed, to acquit ourselves worthily in our difficult and responsible vocation.

Leeds, July, 1850.

ILLUSTRATIONS OF THE DIFFICULTIES WHICH BESET THE DIAGNOSIS OF SOME CASES OF DISEASE.

By THOMAS POYSER, Esq., Fellow of the Royal College of Surgeons of England.

INTRODUCTORY REMARKS.

I HAVE been much gratified by the perusal of a paper in the LONDON JOURNAL OF MEDICINE for May, by DR. SEMPLE, on "Diseases of the Nervous System." The cases which he so candidly and graphically describes, are familiar to all who are in extensive practice, and show but too clearly that, in a great variety of cases, which terminate fatally, the symptoms during life do not develope the true seat and nature of the malady. The great attention that has of late years been paid to general and morbid anatomy, and to pathology, with the mechanical aids that have been had recourse to, for the investigation of diseases, as well as the more patient and inductive method of studying them by those who practise medicine as a science, have no doubt tended materially to render diagnosis and symptomatology more clear and specific; yet there is still a wide field open, in this most important department of medical practice, for future explorers.

To ascertain the true pathological cause of disease is confessedly the most difficult, as it is the most important, part of medical practice. Indeed, as Celsus has well observed, "æstimatio causæ sæpe morbum solvit." Many causes, however, concur in practice, but more especially in the country, to render the patient observation of disease difficult, if not almost impracticable. Extensive practice, while it renders the practitioner familiar with the phenomena of disease and its terminations and best means of cure, leaves rarely much leisure for the niceties of physical and chemical exploration, required in obscure cases. They who have the most extensive field of practice, are apt, in the hurry of business, to depend on tact, a sort of intuitive gift, like the *tactus eruditus* of the surgeon: and hence their examination of cases is apt to become habitually superficial, and a routine mode of prescribing is also, from the same cause, too often allowed to usurp the place of rational treatment.

I do not state this to the disparagement of the general practitioners, than whom a more painstaking, intelligent, or conscientious body of men does not exist, in our own or any other profession. But we cannot expect impossibilities; and the multiplicity and diversity of cases which the well-employed medical man has to visit daily, if spread over a great extent of country, forbid that minute attention and examination which are frequently required.

Another hindrance to the complete investigation of disease, when it terminates unfavourably in the country, is the great repugnance to *post-mortem* examinations. In large towns and public institutions this prejudice is not so strong; but in some rural districts, a request to have a *post-mortem* inquiry almost invariably gives offence to the relatives, and is very rarely permitted. The country practitioner has seldom, therefore, an opportunity of verifying his diagnosis by a *post-mortem* examination; and if he had doubts on his mind as to the cause and seat of the

disease, during the life of his patient, those doubts have little chance of being cleared up by his death.

Occasionally, however, a post-mortem examination is allowed, and then we sometimes find that the true seat of the disease is revealed, which during life was not suspected, nor indicated by the symptoms. These unlooked-for terminations of disease are seldom given to the public; as they imply, (though often unjustly), a want of skill, or perspicacity, in the medical attendant: while periodical works teem with cases terminating favourably, or where the examination after death proves the diagnostic skill of the narrator. In systematic treatises too, and monographs on particular diseases, the general history of the symptoms, treatment, and termination of the ailment, proceeds too smoothly to meet the exigencies and stern realities of actual practice. Untoward and unlooked for terminations of disease are seldom adverted to, or recorded; and yet these furnish the most important and instructive part of the history, as they are beacons or landmarks to future inquirers.

In the short but elegant preface to the transactions of the College of Physicians, written, as is generally supposed, by the late Dr. Heberden, is this paragraph: "It is to be wished, that writers would not confine themselves to relate only their successful practice. A physician of great experience might write a very useful paper, if he would have the courage to give an account of such methods of cure only, as he had found to be ineffectual or hurtful." With the wish to further a suggestion coming from such high authority, I published a few years ago, in the fifth volume of the Transactions of the Provincial Medical and Surgical Association, some cases and dissections "to shew the uncertainty and difficulty of diagnosis; from the symptoms during life not being indicative of, or bearing any proportion to, the extent of morbid lesion discoverable after death". The cases to be offered to the readers of the London Journal of Medicine, may be regarded as a continuation of these reports. Having no system to establish, or theory to support, they will be selected indiscriminately, from notes taken at the time: and although, perhaps, but little may be learned from them in the way of practice, yet I trust that, from the reasons above stated, they will not be found uninteresting or useless. An important object will be answered by their publication, if it induce others, whose opportunities of observation from public hospitals and other sources are much greater than mine, to publish such results of their experience, as may illustrate the difficulties which beset the diagnosis of some cases of disease.

Case I. Obscure Neuralgic Pains: Disease of the Brain, and Enlargement of the Liver. Mrs. —, aged 40, the mother of a large family, and a lady of great intellectual attainments, who had usually been in the enjoyment of good health, was attacked in the Autumn of 1844 with acute pain in the right groin, or rather in the inner and upper margin of the ilium. The pain was limited in extent, and might be covered, as she expressed it, with her finger, but was so acute as to deprive her almost entirely of sleep, and to render any motion of the part nearly insupportable. There was no swelling, redness, nor any appearance of

inflammation. This pain continued some months, without varying its seat or character, and but little controlled by treatment.

It was considered to be neuralgic; and every means that could be suggested, both constitutional and local, were tried by an eminent surgeon who then attended the case. During the progress of this affection, Mrs. — herself discovered, while in bed, (to which she had long been confined by the neuralgic pain), a swelling in the right side below the liver. On examination, this viscus was found much enlarged, extending four or five inches below its normal size and situation, of a stony hardness; but unattended with pain or tenderness on pressure. It seemed to account for the pelvic pain, inasmuch as the pressure from this indurated mass on the nerves might occasion it. Mercury with taraxacum, and iodine and mercurial frictions, were therefore had recourse to, without any alleviation of the pain, or diminution of the hepatic disease.

In the Spring of 1845, the patient was removed to her mother's house in this neighbourhood, and on April 5th I saw her. In addition to the enlargement of the liver, and the acute pain on the inner margin of the crista ilii, there was now tympanitis, the bowels being enormously distended with flatus. There was no pain in the head, no fever, and the pulse and tongue were natural: but there was a degree of irritability of mind and fretfulness which was remarkable, as Mrs. —'s natural disposition was peculiarly placid and gentle. It is unnecessary to detail the treatment, as but little or no relief was obtained from it.

The tinctura cannabis indicæ soothed and tranquillized the nervous feelings; and the unguentum aconiti as a local application, (suggested by Sir Benjamin Brodie, who was consulted), in some degree assuaged the pain; but the general character of the symptoms continued unabated, till about the middle of April, when the pain began to diminish, and, in two or three days, went off altogether. After the removal of the pain, Mrs. —'s spirits and appetite improved; she was able to sit up and walk about her room; and although the tympanitic swelling and enlargement of the liver did not diminish, yet she was cheered by the freedom from pain, and the prospect of recovery.

On the 28th of April, while sitting in her chair, Mrs. — had an apoplectic seizure, which deprived her of speech and the power of swallowing, from which she never rallied. She expired May 3rd.

A post-mortem examination was made thirty-six hours after death. On removing the calvarium, the external part of the brain presented no diseased appearance; but, on cutting into the left hemisphere, it was found to be quite degenerated in structure. The whole of the anterior lobe was converted into a thick purulent fluid; and, in the middle of this large abscess, there was a clot of blood of the size of a walnut. This coagulum appeared to be of recent formation. The left middle lobe was pulpy and diseased, but the other parts of the cerebrum and cerebellum had a firm consistence and healthy structure. The abdomen was very large, from the bowels being enormously distended with flatus, but there was no extravasated fluid or gas in the cavity. The left lobe of the liver presented a very diseased appearance. It was enlarged to more than twice its usual size, had almost a stony hardness, was mottled and tuberculated externally, and on cutting into it, its texture was gristly

and exhibited that diseased structure termed mammary sarcoma. The inner edge of the ilium, where the pain had existed so many months, was carefully examined, but there was no morbid appearance discoverable in the part, or in the nerves leading to it. The thorax was not opened.

Remarks. This case is, I think, interesting, and worthy to be recorded. It shows that the symptoms did not point to the true seat of disease, till a short time before the patient's death; and that extensive disorganization may be going on in the brain, without impairing its functions, or manifesting those signs by which it may be detected. The fretful and altered manner of the patient led to the apprehension that softening of the brain might be going on; but the total absence of pain in the head, and of rigors, or any indication of inflammatory action, rendered the diagnosis very difficult. It is highly probable, that the pain in the right side of the pelvis was occasioned by disease of the left side of the brain, and furnishes an additional instance to those recorded by Sir Henry Halford, where neuralgia was the effect of cerebral disorganization. When the latter disease had so far advanced as to disqualify the nerves from suffering so exquisitely, then the pain ceased. This case shows the importance of attending to the brain, in all long-continued and obscure neuralgic pains, although the functions of that organ may not be impaired.

Wirksworth, July 4, 1850.

ORATIO HARVEIANA,

IN ÆDIBUS COLLEGII REGALIS MEDICORUM HABITA,
DIE JUNII XXIX, MDCCCL.

A JACOBO ARTURO WILSON, M.D.

Anno, quo nullus post hominum memoriam funestior, jam exacto, vos iterùm, Præses et Socii, Harveius ille noster dilectus in festum suum æstivum haud immemores convocat; iterùm in amorem et amicitiam, scientiæ causâ, ut pater liberos, amanter vos hortatur; necnon in scientiam experientiæ viâ solâ adeundum esse, vos, ut philosophus discipulos, fideliter admonet. Ad hunc finem, ipsius jussu institutæ, et veteri nostro curriculo de anno in annum repetitæ, ex suis ipsius verbis sit, pace vestrûm, hujusce orationis exorsus. Attendite igitur, Socii, hospites, et, quicunque huic festo favetis, fratres medici! nec vereamini, pro hâc saltem vice, aures adhibere in verba, non mei Londinensis, linguâ non meâ balbutientis, et Latino pede claudicantis, sed Anglica, Harveiana, ex ore suo ipsius, octogenarii, et, quasi e sepulchro, pro se et suis in omne ævum loquentis.

"To maintain friendship, there shall be at every meeting, once a month, a small collation, as the president shall think fit, for the entertainment of such as come; and, once in every year, a general feast for all the Fellows; and on the day of such feast shall be an oration, in Latin, by some member, to be appointed by the President, two eldest Censors, and two eldest Elects, so as not to be appointed two years toge-

ther, in commemoration of the benefactors by name, and what in particular they have done for the benefit of the College, with an exhortation to others to imitate, and an exhortation to the members to study and search out the secrets of nature, by way of experiment; and for the honour of the profession, to continue mutually in love."

O lepidum, præclarum, et ter dilectum caput! Hâc voce tuâ amabili dum aures nostræ adhuc personant, quàm te, ex cordis motu, per sanguinis affluxum, in pectora nostra recipere videmur! Te talem nos non diligamus, non admiremur, non omni ratione præponendum putemus? Id unum tibi objicio, quòd, natu Anglus, in hâc Anglorum concione, pro te, stirpe, moribus, indole, (si quis unquam) Anglico, de medicinâ et medicis Anglicis hanc orationem aggressurus, linguæ alienæ, nec meæ, nec tuæ, compedibus obstrictus sim.

Profectò, Socii, piget me quàm vehementer quòd in foro Londinensi Romanas has agere partes, jam in provectiore ætate, et sine ullâ in hoc genere dicendi exercitatione, designatus fuerim. Quàm libenter autem (si ita inter nos de more esset licitum) verba nostra, quotidiana, spirantia, viventia, natali jure propria, materno usu consecrata, ad Harveii votum explendum, in vestram indulgentiam et ex animi copiâ commendarem! Pro tarditate et debilitate hujusce mei oris in linguâ adoriendâ quæ semper mihi in deliciis legenti, perdifficilis et in fastidio loquenti fuit, veniam a singulis vobis, quantam impetrare fas sit, libenter quæso. Habetis confitentem reum. Neque id vellem a vobis putari, quòd, ex hoc concursu hominum literatissimorum, mihi Ciceronis linguam aggressuro ulla præter modum sollicitudo inciderit, quasi, hisce utens tam limatis judiciis, minore indulgentiâ condonandus essem. Immò etiam, ex hâc frequentiâ judicum lectissimorum, fiduciam, et, qualis cunque sit, dicendi copiam recipere videor.

Quo magis enim quisque ingenio et studio in litteras humaniores est proclivis, eo minùs mihi in his molestiis luctanti favere recusabit. Nemo, nisi non expertus, se in tali labore validum profiteatur. Scriptores et oratores Romani mihi multò cariores et multò magis admirandi sunt, quàm ut eos e pusillâ meâ ingenii facultate æmulari in propositum veniat. De "Latinitate", ità dictâ, si ulla sit, aut nulla sit, cujus compos esse videar, quid mihi, inter Londinenses Londinensi, curæ est? In hâc meâ pro Harveio magno allocutione, id primùm respicio, ut verum sit id quod dicam, ut quod sentiam sit sincerum. Id maximè vereor, ne quod dicam perinde intelligi auditu possit, atque ego ipse cogitans sentio. Faustum sit mihi, utpote trepidanti, omen, quòd non primus ego Wilsonus coram hoc collegio orator pro Harveio adsto. Nam paucis diebus post Harveii excessum, verba hæc, inter alia quæ in laudem Harveii Georgius Entius, amicus ejus conjunctissimus, conscripserat, Wilsonus, Socius et doctor, recitavit: "Fessâ tandem fractâque senectute, funeri suo propinquus, rerumque aliarum omnium securus, pulsuum suorum rhythmos explorabat; ut qui vivens valensque vitæ exordia, ejusdem progressus, alios docuisset, ipsemet jam denascens mortis præludia addisceret. Tandemque octogesimum annum emensus, qui tertius præteriti mensis erat, occubuo sole, placidissimo animo mortalitatem exuit, fatique necessitatem explevit." Wilsonum illum Socium, annis abhinc ferè ducentis, de Harveio vix id temporis mortuo, coram affluenti medicorum frequentiâ tali voce perorantem, quanta gratia, quantæ

lacrymæ insecutæ fuerint, quis nostrûm etiam nunc eadem verba auscultantium non ex corde sentire videtur?

Favete auribus, favete adhuc animis, sodales et Socii! Alterum Wilsonum, Harveianæ indolis, si quis unquam alius, conscium, fortem, mansuetum, generosum, veritatis præ cæteris amantissimum, Harveio ipsi studiis anatomicis haud imparem, de sanguine et cordis motu, ut de corporis totius fabricâ et usu per annos triginta prælectorem et scriptorem, Hunterii Gulielmi et fratris ejus Johannis alumnum, Bailliæo nostro benefactori familiarem, et laborum consortem, Jacobum Wilsonum, chirurgum, his recentioribus temporibus præreptum, memoriâ vestrûm plurimorum adhuc lugenti expetitum, ante ora omnium, gratus, et quò ad hoc superstes, lætus, repono. Favete ejus nomini, præsertim hoc die, Socii et medici fratres! Eorum enim omnium, qui anatomiam in hoc Angliæ regno excoluerunt, nemo per longiorem seriem annorum, ad cumulandam Harveii nostri laudem magis sedulò et majore fructu enixus est.

Mi Pater! Videor mihi videre patrem meum, eo habitu vultûs, eo vestitu quo vivebat, in Lyceo Hunteriano, coronâ discipulorum, immò et virorum in medicinâ principum,—nam a plurimis semper audiebatur,—die kalendas Octobris circumsessum. In visum et auditum interiori animi sensu jam nunc recipere eum videor, sublato fronte, oculis, præ amore et reverentiâ, cùm humidis tum fulgentibus, dum de Harveii ingenio, fide, constantiâ loquebatur, cor omnium auscultantium, ut suum, ex imo suscitantem.

Ignoscite, Socii, cui filio res, locus, dies ipse suppeditat, si, orans pro Harveio, de patre, viro Harveiano, quòd nemini obstat, paulò liberiùs locutus fuerim. Hodie de mortuis, pro honore, agitur. Sed ne diutiùs morer in ejus laude, quæ mihi soli in hoc concursu est carissima, vestra expectatio me jampridem, etsi indulgenter, admonet.

De rebus hoc proximo anno gestis et factis, (orationes enim, ut hæc quæ nunc habetur, ab Harveio in perpetuum institutæ, Collegii nostri quasi annalia et fasti esse videntur), e quibus aliquid lucri vel damni, honoris vel incommodi, communitati nostræ acciderit,—de statu, progressu, et futuris artis medicæ fortunis,—de morum inter nosmetipsos disciplinâ et consuetudine, a me pro meis viribus dicendum est.

Respicite, igitur, in annum vix præteritum, vos, Præses et Socii! qui mecum huic solenni orationi inserviatis! In triviis—per vicos—per aperta rura—apud ipsas Baias, qui pavor! quantus luctus! quæ frequentia funerum! Quæ hæc est immanis morbi species! hæc mortis imago nova?—Annus nefastus!—Collegio nostro, præ cæteris, heu! sine gloriâ memorabilis. Annus, in quo, huic urbi insolitâ et sævissimâ peste diu ingruente, tum postea universum Angliæ regnum vastante, Collegium hoc Regium Medicorum Londinensium, neque a senatu, neque a consiliariis reginæ intimis, neque a prætore regio ad res domesticas administrandas designato, ne unâ quidem vice vel voce, in auxilium salutis publicæ vocatum est! Neque in curiâ, neque in foro, prævalente morbo, vox nostra audita est. A nullis nostri periculum factum est consilii!

Per cor et sanguinem Harveii! Quid est, si hoc non contumelia est! Nec satis erat hanc aciem nostram medicorum instructam, in morbo insolito oppugnando, ne ad succursum quidem adhibere,—nos sic negli-

gere, et sic negligendo pro nullis efficere; quinetiam ex adverso, nobis, Apolline duce, in pestem dimicantibus, ad Mercurii fabri officinas in vico proximo Aulæ Candidæ constitutas, signa, si operosa et sanitaria, certè non medica, consiliarii regii, ad hoc delecti, sustulerunt. "Diversæ voluntates civium fuerunt, distractæque sententiæ. Non enim consiliis solùm et studiis, sed armis etiam et castris dissidebamus. Erat autem obscuritas quædam, erat certamen inter clarissimos duces, multi dubitabant quid optimum esset, multi quid sibi expediret, multi quid deceret, nonnulli etiam quid liceret." Post hanc tam turpem immeritamque repulsam, post hanc quasi ignominiæ notam parietibus nostris auctoritate publicâ affixam, nunc iterùm ad Harveii festum in hâc concione domesticâ congregati, nos invicem et ex corde gratulemur, quòd, dum pesti oppugnandum erat, domus nostra ab ipsis suis nullam interiorem maculam suscepit.

In his molestiis, nec sibi nec nobis sociis suis defuit Præses noster Parisius; qui, si Parisiis ipsis Galliæ juvenis medicinæ præfuisset, ab eo concionabulo, cui salus publica permissa fuit, non magis alienatus esse potuisset. Consiliarios illos regios Mercuriales, doctorum in medicinâ partes agentes, ultrò, pro dignitate hujusce Collegii et suâ, decenter compellatus est; omne quod consilii et opis apud nos erat, ad morbum tractandum vel præcavendum, id nobis properè et libenter in commune allaturis promissum dedit. In concionem, sub adventum morbi, nullâ morâ interpositâ, convocati fuimus,—ad exquirendam ejus rationem plerique e nostro numero delecti sunt, qui experientias suas e nosocomiis Londinensibus redundantes, in unum afferrent,—immò etiam, qui per litteras passim in provincias missas, omne, quod in promptu erat, ad omnium medicorum usum colligerent. Unusquisque nostrûm, libet dicere, ultrò et pro virili suo perfunctus est officio.

Neque id solùm de medicis hujusce nostri ordinis affirmo, sed etiam de omnibus in omni genere per universum Angliæ regnum medicinam exercentibus. Profectò de nobis ipsis in medicinâ doctoribus vel omninò tacendum est, dum fratres nostros, quàmvis sine doctoratu, medicos respicimus, in nosocomiis, in carceribus, in ergasteriis, in vicis et angiportibus omni illuvie inquinatis, nocte dieque, per menses æstivas et autumnales, decies vel centies pro unâ vice nostrâ in peste oppugnandâ occupatos. Quæ fortitudo! Constantia, fiducia, quàm admirandæ! Quæ vigiliæ! Quanta dispendia et rei et virium! Quæ incuria sui!

Pro hâc ordinis nostri medici sedulitate in laboribus, quàm sæpè sine mercede vel minimâ susceptis,—pro tantâ amoris et officii perseverantiâ in maximo civium discrimine, annon grata eorum mens esse debet, quibus reipublicæ nostræ cura committitur? an tituli, honores, imagines, laus publica, tali virtuti non conveniunt? Quæret de his rebus, annalia hujusce Angliæ perlegens, aliquando quispiam? Prandia, orationes, "testimonia", inter omnes ordines ob facta, dicta, merita et immerita omnia, ob res gestas vel non gestas, ex omni parte invicem aguntur. Ob pugnas, trucidationes, rixas theologicas, ob cantilenas, ob aurum e ferro viis publicis instrato impudenter conversum, hujus vel illius est famæ recordatio. De medicis, in se pro salute communi mille molestias et vitæ pericula suscipientibus, in fastis publicis nulla fit mentio! Sursum corda, Socii! Collegium nostrum Londinense, si, majestate per alienos læsâ, hoc proximo anno aliquanto minùs regium fuerit,

attamen in rebus suis, auctoritate suâ, est nunc vel maximè medicum. Sursum corda! Quot modis contempti, spreti! Repudiati, tandem repetemur.

Quòd, ingruente morbo, materia ad auxilium consiliariorum regiorum de salute publicâ sollicitorum abundè apud nos suppetiisset, indicio sint eorum nomina, quos, nostræ societati hoc proximo anno præreptos, heu! frustrà quærimus. Vespere quinto Idus Octobris, anno hoc superiore, primus ad hasce ædes, nobis tum primùm in concionabulum convocatis, de morbi in Divi Thomæ nosocomium invasione, archiater ejus hospitii, Henricus Burtonus nuntiavit. Ultrò, et inter primos, æstate sequente, morbo jam tum inveterato se opposuit; inter primos, Deo sic volente, morbo occubuit. Et vitæ et mortis exemplo sit nobis ille frater noster delectus,—cùm in omni tempore, virtutibus, industriâ, ingenio, a nemine obliviscendus, tùm, hoc præcipuè die, merito atque optimo jure suo, in pathologiâ sanguinis exquirendâ, cum Harveio ipso celebrandus. Nam sanguinis cursum, auctore et duce Harveio, duplici viâ insecutus, attigit, et ratione et oculis, lineam istam cæruleam margine gingivarum circumscriptam, quâ teste, venenum Saturninum in venis et visceribus penitùs receptum quasi in conspectum medici proponitur. Profectò, ex hâc tam simplici ratione rei, Henricus noster monumentum sibi exegit, quàmvis e plumbo, ære perennius. Inter nos medicos de arte nostrâ naturam ritè exquirentes, metallorum nullum est vulgare, nulla e splendore nobilitas.

Prout hic, sic ille alter, quem e nostro numero amissum hodie lugemus, per vires ingenii et industriæ insitas, materiem naturæ, ab aliis rejectam vel minimè expetitam, sibi et suæ famæ inservire coëgit. Præclarus hic plumbo, Proutius ille urinâ! Ad scientiam excolendam, tanta est ex rebus omnibus laboris occasio et copia. In materiâ morbi indagandâ, lex nostra philosophiæ recens haud minùs quàm avidè de minimis curat. De philosopho illo sexagenario, mensibus abhinc tribus adhuc vivo, sedulo, operoso, quomodo, nisi ut de philosophiâ ipsâ, licet loqui? In foro et triviis hujusce nostræ Romæ, dum ad clientelam suam incedebat, quis et qualis, si non philosophus, ante ora hominum exstare visus est?—gressu properante, sed tacito,—vultu demisso,—habitu humili,—vestitu quàm modesto!—infumo etiam pallore candidus,—ad strepitum surdus,—ad opes non magis quàm modicè attentus. Me semper pigebat,—et, inter colloquia nostra, annos abhinc viginti, sæpe cum sic alloquebar,—quòd, in succis animalibus a sanguine excretis tam assiduè et tam feliciter versatus, a sanguine ipso, vivo, universo, omnia omnibus ministrante,—a sanguine non solùm passim recipiente, sed etiam passim agente, quasi animo aversus foret.

Grata et constans sit Proutii nostri apud nos memoria, non solùm quòd in pathologiâ chemicâ ferè primus viam medicam instituerit, sed quòd alios ad se ipsum æmulandum viribus ingenii sui suscitaverit. Non omnis, Socii, non omnis ille noster morietur! In hæreditatem ejus in studiis pathologicis acuminis et industriæ, ne dubitetis quin alii de die in diem sint successuri. Apud nos, consensu omnium, jamdudum salva *res* est. Uno, qui volitavit per ora hominum, pennis in altiùs elatis, remoto, non deficit *aureus* alter *avis*.

Amici et sodales ambo, haud ampliùs in hoc cœtu nostro videndi, inter gemitus et lachrymas valete! Coronas vestras laureatas, heu!

atris lictoribus comitantibus, hoc solenni die in domum vestram reporto,—insignia artis vestræ ad effigies Harveii, Sydenhami, Bailliæi hìc in perpetuum repono.

Salvete! ambo, Harveio jubente, idem ego vos iterùm compellor. Salvete! ob beneficia in ordinem et domum nostram iterùm recepti, et, eo titulo, hoc festo die gratâ voce commemorandi! Laus, honor, scientia, apud nos, hæc sunt in loco divitiarum,—benefactores e nostrûm numero præ cæteris illi, qui virtute, ingenio, doctrinâ, industriâ, sibi et huic societati suæ gratiam conciliant, existimationem comparant! Omnibus igitur, qui fundos, ædificia, supellectilem, qui aliquam argenti vim ad nostrum usum aliquando contulerunt,—vel qui, veræ medicinæ scientiam excolentes, in hâc nostrâ vitæ ratione, quotidianâ, assiduâ, laboriosissimâ, humanitatem animi, et mores suos integros servare student,—omnibus, qui honestè pauperes vivere optant, potiùs quàm homœopathicis, hydropathicis, mesmericis, etiam ad normam empiricè exquisitis artibus divitias parere,—omnibus his bene moratis sociis nostris, quamvis spe humili, et opibus præcisis, gratias hodie ut benefactoribus, Harveio ipso indicente, pro debito et solenniter agamus. Bene fecerunt, qui bene vixerunt.

Ne vereamini, Præses et Socii, ne pro consuetudine hujusce rostri, Linacrum, Caium, Harveium (et quot, longo ordine, alios!) patientiæ vestræ oppositurus sim. De tot et tam diversis viris, quomodo, ut quisque mereatur, et sine invidiâ, loqui possum? Eximii omnes pro hâc vice salvete, et valete! Cum tanta sit vestrûm fama, quis dubitet quin, etiam me tacente, in biennium fuerit superstes? Quàmvis non nominatim et singulatim in vota nostra more solito invocati—attamen, et nunc et semper, benefactores omnes, quicunque fueritis, adeste nobis, ad omne memoratu dignum grato animo intentis, et ad veram scientiam per experientiæ vias enixè simul incedentibus.

Quàm frequenti et quàm liberali manu in domûs hujusce usum et honorem de anno in annum a suis effusum est, e parietibus hisce ipsis patet, qui, nostris propriis sumptibus extructi, gratias, ut videtur, agere gestiunt. En coram vobis, oculis sublatis, Bailliæi munificentia per totam interiorem domum reposita!—in re anatomicâ, opera quàm multa et varia!—manu ipsius, se ipso teste, et patris mei (haud temerè loquor), illum pro amicitiâ subinde adjuvantis, elaborata. Quanto dispendio argenti et laboris exquisita, et adhuc conservanda! Sed, quòd ad munificentiam attinet, quid moror in hoc vel in illo, inter sociorum nomina? Per longam annorum seriem, nemo fuit e nostrûm numero qui non censum gravem in se suscepit, quò res publica nostra non majus acciperet damnum. Ut ratio et summa munificentiæ in domum nostram collatæ gratè dignoscantur, tabulæ istæ auratæ theatri parietibus affixæ perlegendæ sunt. Quot nomina illustria! Quot pecunias operosè partas, e privatis commodis desumptas, et in usum communem ultrò collatas!

Satis, superque, in hujusmodi antehâc orationibus, ut mihi videtur, laudationis fuit,—parùm fortasse laudis. Ut pro laude ex hoc rostro valeat laudatio, sit præter laudationem aliquid semper in proposito; sit in laudatione modus ad mensuram et pro ratione laudis, de eo quod non est laudandum; sit etiam dicendi copia, neque in his fastis Collegii nostri conservandis, absit, invidiæ metu, illa modestiæ et pudoris magistra, censoria severitas. Absit, procul absit ab eo, qui ex Harveii jussu hoc

solenni die vos alloquitur, omnis assentatio, non modò in vivos, sed etiam in mortuos! Ambitiosi, vafri, gloriosi, heu! pietatis etiam simulatores, quorum incredibili vi mendacii vita adhuc viventium typis publicis in exemplum nobis ante oculos proponitur, hoc saltem die, hìc saltem loci sine laude discite vivere!—Blanditiæ, officiosæ sedulitates, quibus inhiantes magis magisque de die in diem sufflamini, non mei pro Harveio orantis hæc sunt officii. Signa ærea, ad pretium de semetipsis ex ære computandum, "spirantia" ligna, ad ligneas suas effigies a solis radiis expressa, funambuli in quovis genere vel medicinæ vel chirurgiæ eximii, per universum terrarum orbem, oblectamento suo, ut libeat, diffundi curent,—immò etiam vitas suas cum pecuniariarum rerum ratione implicitas chirographo publico in aures dictitent. De hujusmodi singulorum laude et famâ, de "testimoniis" ita dictis ob beneficia in semetipsos a viris prosperis collata, quem nostrûm non usque ad nauseam nunc dierum pertæsum est! Bono animo sis, quisquis es, orationi huic qui ades! De mortuis hodie est quæstio. Sit ergo nulla inter nos famæ opinio, nisi quæ sepulchro inveteravit. Fautores, satellites, assentatores, omne id genus molestum caveat id, de quo nunc agitur. Harveio festum indicente, haud vivos depascimur! De mortuis, ita aiunt, nil nisi bonum! immò, ex hâc ipsâ sententiâ, nil nisi verum; quid enim est bonum, si non sit verum? Excidat potiùs ex ore mihi lingua, quàm ut laudi hominis illius nequissimi, quo regnante, Collegium hoc nostrum institutum est, vel uno verbo inserviat. Quid? "illud funestum animal, ex nefariis stupris, e civili cruore, ex omnium scelerum importunitate et flagitiorum impuritate concretum," eodem loci et temporis vestigio, quo animæ niveæ Harveium nostrum, sapientiâ, doctrinâ, benevolentiâ, omni laudis genere præstantem,—eodem die et spiritu, hunc civem philosophum, Deo carum, a suis veneratum, et illum regem tyrannum, fastis Angliæ semper execrandum, coram vobis in lucem proferrem, et vestro favori commendarem?

In Harveii nomine continetur omnis omnium fama eorum qui Collegio nostro benefecerunt. De Harveio igitur solo, cùm exorsum, tum etiam exitum oratio hæc mea Harveiana, pace vestrâ, deducat.

Eorum, qui Collegio nostro maximè benefecerunt, unus est, Socii, præter Harveium, quem non cum Harveio hoc die singulatim nominare, est de Harveio ipso tacere, et quasi aliquid gratiæ famæ ejus detrahere.

Inter Lumleium nobilem, et Harveium ex instituto Lumleii in medicinâ et chirurgiâ prælectorem, quis nescit quàm arctum est humanitatis et ingenii vinclum?

Suadente Caldwallo, Lumleius veræ scientiæ intentus prælectiones ex suis sumptibus instituit. Harveius, id temporis nondum natus, annis vix quadraginta elapsis, prælector Lumleiensis eligitur. Res prælecta est sanguis per corpus e corde circumactus! Lumleio nobili, senatori, in civitate principi, post longa æva, eorum qui restant, prælectore ejus Harveio quis nunc est conjunctior?

Immò inter nobilem et medicum est in futurum per sanguinem ipsum cognatio quædam et quasi affinitas.

Tituli, æra, imagines, quò nunc tibi, nobilis noster, reponuntur? Tui in memoriam, inter tuos, quid denique restat?

Hìc saltem loci, apud nos medicos, quæ nobis in custodiam tradidisti, sub tutelâ nominis tui religiosè conservantur, et ad gloriam tuam, quò magis usitata, magis redundant.

In Harveii domum nobilitas tua (quid melius aut aptius?) se tandem recepit. Laus, virtus, honor tuus sunt nobis pro nostris. Sis hospes in perpetuum, inter nos medicos Londinenses, quos, amantissimus artis et scientiæ nostræ, honore afficere haud dedignatus es! Lumleianis viris, si adhuc extent, bene instituti, natu nobiles, et ingenio ad medicinam veram proclives, ubi est nobis ad conveniendum locus? Aut hæc, aut nulla domus patet. In Curiâ enim de Medicinâ est annua taciturnitas,—silentium perpetuum. Vox nostra in foro nunquam auditur. In aulâ regiâ, ut videtur, vix publici juris digni censemur.

Quod ad optimates hodierni temporis nostros attinet, vel natu, vel divitiis, civitatis principes, senatores, equestres, magistratus,—heu! etiam sacerdotales,—si in veram medicinam conjurati essent, quomodo majoribus damnis, aut magis contumeliosè nostrum ordinem afficere possent?

Profectò, ignorantiâ, arrogantiâ, et negligentiâ virorum qui circumstant forum, ex omni parte obruimur;—ignorantiâ, plenâ dedecoris et risûs, et, cùm proterva sit, in rebus medicis minùs ignoscendâ;—arrogantiâ, quæ etiam in morbo sibi assentationes et patrocinium quàm avidè captat, medicum liberum, liberalem, sincerum, in propinquo vix vel ægrè patiens; servum, libertum, fautorem, empiricum, quàm libenter!—negligentiâ, cui nulla hominum solertia comparanda est, cui nulla patientia ad sustentandum sufficere possit! Certè equidem, nihil est tam molle, tam tenerum, vel exiguum, quod exilitati optimatum plurimorum nostrorum ingenii, in Anatomiâ, Physiologiâ, Medicinâ, adæquari potest; nihil tam ingens aut crassum, quod eorum ignorantia et credulitas non facilè superent. Nullus sit invidiæ metus, quin hanc alienationem principum, Victoriâ Reginâ, in civitate nostrâ, virorum, a nobis et studiis nostris, cum Lumleii et hominum illius ævi ejusmodi benevolentiâ, ex adverso comparem. Res patet; de die in diem crescit, et se petulanter pro sapientiâ jactat. Typis publicis quotidianis exprimitur. "Tempora" proclamant mores. Se ultrò in quæstionem tradit.

Hic comes, ille dux, hujusce rei uterque et dux et comes, nosocomium, cujus, ipsis dicentibus, medicina et chirurgia infinitesimæ vel proximæ nihilo futuræ sunt, epulis datis, inaugurant. Ad nomina præsidum, nobilitate insignium, more apud nos Anglos philosophorum inveterato, quantâ frequentiâ concurritur! Mensæ, pares impari appositæ, instruuntur; in sedes, "*ὅμοιος πρὸς ὅμοιον*", convenitur; locus est etiam pluribus, heu! pietas, heu! prisca fides, umbris sacerdotalibus! Cibus, qualis et quantus, ex quâ ratione, sive infinitâ sive infinitesimâ, distributus fuerit, (absit hoc omen a nostris jam incalescentibus epulis!) quis hic curat discere? Gloria nobilitatis superiori mensæ præsidentis in capita convivarum homœopathicè, et per stillicidium, deorsùm infunditur, et a singulis, infinitesima cuique, pro suâ recipitur. Pecunia (quàm vellem dicere, infinitè infinitesima!) heu! bona, solida, ad plurima millia sestertiûm corraditur. Prandii et post-prandii recensio, finitis rationibus, computatur. Medicina et chirurgia infinitisimæ, pro futuro, promittuntur. Gratiæ infinitæ invicem aguntur. In domum disceditur. Apud conjuges et liberos de pacto singulis gratulandum est.

De his ineptiis quid magis severum dici potest, quàm ipsas ineptias sine commentario enarrare?

Prætor ille urbanus, qui dat natalitia Hahnemanni in tabernâ,—hydropathicus iste nobilis Belgraviensis, qui Apollinem esse medicum omninò

negat,—qui Aquarium ipso sole præstantiorem ad morbos curandos vehementer affirmat,—quid minus merentur quàm animadversionem seriam ab illis hominibus scientiæ veræ studiosis, et gnaviter operosis, quorum vitæ et doctrinæ tam petulanter, tam insulsè insultant!

De mulierculis istis protervis, omni insolitæ methodo vel medicinæ, vel chirurgiæ, vel artis obstetricæ se confestim immiscentibus,—pro hoc vel illo obstetrico in deliciis habito, contra Harveii doctrinam, mores, et innocentiam, per publicas vias impudicè clamitantibus;—de duce hoc vel illo, de comitibus, senatoribus, equestribus, in mesmericarum vel obstetricarum istarum impudicarum muliercularum clientelam se et conjuges et filias suas tradentibus, de episcopis mesmericis, de archiepiscopis archi-mesmericis,—præ fastidio, præ pudore, præ religionis studio liceat mihi medico saltem inter medicos hoc die tacere!

Nec præter rem et quæstionem orationis hujusce nostræ hæc alienatio optimatum nostrorum a doctrinâ et studiis Harveii ab aliquo medico censeatur! Ex hâc in re medicâ pravitate ingenii, plurima illa labes conditionis et quasi interitus auctoritatis nostræ. Hinc illud discidium inter nosmetipsos semper renascens, quando de re communi consulendum est. Dividimur et imperamur; immò a quibusdam subdolis et ambitiosis nostris dividimur ut imperemur. Hinc illa injuriæ vis nunquam defessa, nunc huic, nunc illi ordini nostro, ob petulantiam, ab aliis illata. Hâc illuvie, in nos et nostra studia tam diligenter conversâ, non modo externè fœdati in risum vulgi exhibemur, sed etiam interiorem et graviorem labem per ipsum spiritum et venas nostras recipimus. Inter laudum omnis generis avidos, laudibus omninò caremus.

Sunt inter nos, qui honestam laudem quærentes, ob animi et ingenii infirmitatem in probrum alliciuntur. Sunt etiam, qui, de verâ laude nuspiam solliciti, ex hâc in rebus medicis profligatâ principum nostrorum licentiâ, occasionem quæstûs sibi sedulò exquirunt,—et sese perniciosæ isti otiosorum genti, a quibus ars nostra tam impudenter affligitur, clientes inhonestè commodos libenter præstant. Parasitaster ille parvolus, assentando, serviendo, dignitatem artis suæ tradendo, seipsum vendendo, ad honores ita dictos, ad divitias, etiam ad titulum in re civili omnium imum et postremum, medicinâ fretus, quàm sæpè obrepsit! Principibus enim quibusdam nostris, Gnathones, Balliones, Phormiones, maximè cùm medici sint, suppeditant. Neque in moribus, neque ingenio, neque etiam in colloquio, si modò faciles simus, nos fastidiunt,—fide et severitate planè.

Heu! quot modis et quàm facilè, per artes non suas, a medico sic volente in principum gratiam itur! Anne macula ista Romana servitutis tam inveterata, tam inusta nostro ordini est, ut etiam nunc, inter nos liberos Anglos, se aliquando in lucem proferat? An aliter quàm servire est, quod sub lege "de pauperibus medendis" dictâ, a prætoribus rusticis et suburbanis annos viginti indignè patimur? An fratres nostri medici, copiis regiis navalibus adscripti, qui tam insulsâ, tam pertinaci arrogantiâ ab iis qui res publicas curant circumventi, per maria orbis universa indignatione et spei abjectione marcescunt,—an illi, quoad medici, pro liberis censendi sunt? Neque id mihi objiciatur, quòd lex illa "de pauperibus" non nostri intersit,—quòd incommodis navalibus nos doctores Londinenses nullo modo afficiamur. Pro universo ordine medicorum, in tali imperii acerbitate, ab omnibus dimicandum est. Arma ipse

Harveius ministrat. Experientiâ, ad verum inter omnia pericula indagandum et extrahendum, nos præcipuè instruit;—amore et amicitiâ, ad veri inter nosmetipsos communitatem nos indui jussit,—immò etiam fortitudine, pro amoris indicio et in amicitiâ tuendâ—"Courage to make love known,"

Ignaviâ, sit sine invidiâ verbum, Socii,—ignaviâ, cui nomen modestiæ supponitur, jamdiu tabescimus et perdimur. Sit fortis, constans, animosus ille, cui in rebus medicis laus vera ambitioni est! Quid, si Harveius ignavus, si minùs quàm audax fuisset? Quid scientia, quid ingenium, quid benevolentia ejus, sine fortitudine animi valuissent? Sit igitur omnis veræ laudis ad Harveii gressum in medicinâ sectator, cùm in vitæ et studii ratione suscipiendâ sapiens, tùm in eâ susceptâ fortis: fortis, non solùm ad inimicitias et simultates malevolorum repellendas,—sed fortissimus, assentatione et vanitate adversus se et suos prævalentibus;—fortis, ne illecebris otii, ne falsâ studii et agendi specie, a disciplinâ ad veram doctrinam pertinente alliciatur; ne a nobilitate urbis ad nimiam cognitionem devocetur.

Se in optimatum nostrorum gratiam receptum fuisse, id nullus sibi laudi medicus apponi censeat; pro nummatione, quantum quisque valeat, ad computandum facilis est ratio,—quàmvis etiam in re argentariâ a nostris studiis tam alienâ, tanta est complurium invidia, ut particulam penè vicesimam honorarii per longa æva præscripti in sua commoda a nobis soleant divertere. Quàm invitus hæc verba profero, Socii, a nullo dicendum, mihi soli sentiendum est. Contumeliam,—ut scitis, qui me noscitis,—non damnum insector, ne in posterum incidat.

Pro dignitate et otio medicinæ veræ abhorreat quisque, in eâ consequendâ, a ratione negotii et quæstûs in rebus frumentariis illâ mutabili, sub quocunque nomine et prætextu ad merces nostras ingenii, doctrinæ, et experientiæ comparandas translata fuerit!

Etiam medicis suffragantibus, maxima laus persæpe est maximum opprobrium.

Profectò, ex nullâ aliâ re majus recipimus damnum, medullisve propius, quàm a quibusdam effusè petulantibus, qui indole et animo empirici, medicinæ legitimos se esse filios in aures omnium assiduè, et quàm altâ voce, proclamant; chirurgi,—obstetrici,—prout res se habeat, vel etiam in medicinâ doctores, ad normam et regulam exacti, homines effrænatæ, inter alia, audaciæ, quam efficaciam solertem dicunt, in medicamentis, periculo non suo, præscribendis;—nec modum,—nec rationem,—nullum discrimen, nullam cogitationem, immò nullam etiam misericordiam in morbis tractandis adhibentes. Ejusmodi gens illa est, quæ, insperatis et repentinis pecuniis sumptuosiùs insolentiùsque se jactitans, bilem in integrum nostrum ordinem adstantibus haud cessat commovere.

Quòd nullus Lumleius e principibus reipublicæ viris ad sustentationem hujusce domûs nostræ, hodierno die renascitur;—quòd homœopathici, hydropathici, mesmerici,—quòd empirici, quot et quales nullo tempore antehâc, ex hydrâ genitrice etiam ad hunc porticum Apollinis convomuntur,—causa hujusce labis et contumeliæ nostræ in hos jactatores, violentos, conturbatores, quàmvis ad normam et quoad nomen exactos, re verâ empiricos, a plurimis, per cogitationem, refertur;—ad eorum præter fas et solitum catharses, vomitiones, venesectiones, et in omni genere haustuum, pulverum, misturarum, et pilularum veneficia.

Ex nimiâ in medendo diligentiâ, ex præter modum in medicaminibus abundantiâ, in remedium quod ad salutem valet, aut vix suppeditat, nausea! Præ atrocitate et odio diluvii fastiditur fons!

Profectò, sine doctrinâ parùm medicina valet. Obstetricus ille solers et popularis, eò quòd inter quasdam summi loci mulieres, "non Apollinis magis verum atque ejus responsum" sit, non idcircò, in masculinis morbis dignoscendis et tractandis repentè fit medicus. Attamen horum et hujusmodi medicina est præ omnibus dicax, audax, impudentissima, minimè excogitata, maximè sui profusa.

Quod ad chirurgos attinet, quanto purior est chirurgiæ scaturigo, tanto magis præceps, turbidus, lutulentus, est medicinæ rivus. Doctrinâ planè medicina caret.

Ex hâc turbâ, ex hâc caligine quibus domus nostra regia, (anne unquam evasura?) jamdiu opprimitur, ad Harveium et Lumleium, quasi in lucem, redeamus. Date locum, hujusce ævi patroni, homœopathici, hydropathici, mercuriales, mesmerici! Inter hos duos, inter hunc nobilem, et medicum illum, stirpis veteris illius Anglicæ et sinceræ propaginis clientela non morum est vestrûm, non vestri est ingenii.

Ineptiæ, arrogantiæ, impudicitiæ, quibus artem nostram divinam jamdiu opprimitis et penè obruitis, hâc saltem adjuratione, (de sanguine nunc agitur) in tenebras actæ conquiescant!

Sanguis, sit nobis in memoriâ, Socii, sanguis, in quo ipso vivo et vitæ suæ conscio vita omnis continetur, sanguis,—ab omni ævo immutatus, immortalis, "humani generis sanguis cognatus et idem",—fons iste et rivus perpetuus heroum, poetarum, philosophorum, ubicunque scatet indoles, natorum,—sanguis Ipsius Dei hanc terram visentis in cor et venas pro suo humaniter receptus, in hæreditatem perpetuam nobis ab Harveio committitur, cogitatione, præ cæteris, gravi et vehementi, pro hominum salute et ad Dei gloriam excolendus.

Mihi de rebus nostris, ut par est, cogitanti, hoc sæpe in animum incidere solet. Quid si noster Harveius,—quid si nunc iterùm inter nos, in hisce ædibus, ille vivus adstaret? Quid de hâc re diceret, quid de illâ? An laudi, ac vitio verteret?

Videor mihi videre dilectum illum senem hasce ædes quàm avidis oculis perlustrantem! Soleo eum ante oculos ponere ex quovis obvio percontantem,—Quid mei! quid Collegium! quid Præses, Electi, Censores? Consiliarios nescio. Quid Socii? Quomodo, peste Asiaticâ ingruente et invadente, se gesserunt? Quid de sanguine? An in morbis dignoscendis et tractandis apud medicos Londinenses vivit et valet?

Immò, prænobilis dux et auctor, quâcunque incedimus viâ, ad sanguinem, tanquam ad arcem pathologiæ et veræ medicinæ, ab omnibus quibus medicina re verâ cordi est, nunc denique est concursum. Immò, nunc primùm, in ratione symptomatum instituendâ, medicinæ isti anatomico-pathologicæ, quæ "infelix operis summâ, quia totum ponere nescivit," corporis partibus et particulis penitùs implicita est, e sanguinis universi theoriâ, scientiæ universæ lux oboritur. Quòd in sanguinis studio, utpote vitæ materiem et sanam et morbidam præbentis, medici nostri, (perinde ac debeant) jampridem se occupant, en signa adsunt,—quàm varia, et exquisita! quæ Garrodius doctor, et medicinæ professor, ob reverentiam

in Harveii nomen, hoc festo die officiosè instruxit![1] Ecce etiam, quod perrarum doctor noster ille "per æthera notus" Nix mihi in manus ad vestram delectationem nuperrimè tradidit.[2]

Gratiæ fratribus nostris pro tantâ comitate suâ, et mei oratoris, et omnium hîc præsentium, ex animo agantur!

Quantâ admiratione, quantâ ingenii acie hisce novarum rerum formis per artem chemicam et microscopicam explicatis, Harveius noster, si nunc hîc adforet, inhiaret!—sed mitto—(heu! præ temporis inopiâ), chemica, microscopica, ponderosa et alia ad sanguinis compositionem pertinentia, quæ nobis quotidiano usu familiaria ab Harveio vix suspecta quidem, vel penitùs ignota erant.

In sanguine vivo, dum integer sit, quanta vis insita! quanti nisus formativi, quanta et quàm continua *ἐνεργεία* ad virium explicationem prompta! O! quanta nobis patefacta sunt, quæ illius temporis philosophia nondum insomniaverat. E sanguinis particulis, invicem in se agentibus, vis electrica, ut nuper patet, per universam corporis fabricam, immò in ipso fabricandi opere, continuè et universè gignitur, Lux ipsa, e radio in radium diversè inflexa,—vel, ut dicunt, "polarizata", non solùm de aliquo albumine præsente testatur, sed insuper, quænam sit albuminis ratio ex angulo radii deflexi et e spectro colorato indicat. Quædam medicamenta, injecta per arterias cruris, impotentiam musculorum infrà positorum,—quædam alia anæsthesiam,—alia iterùm impotentiam et anæsthesiam inducunt. Calor animalis e carbone oxygenato sanguinis per totum corpus nutritioni inservientis, ratione exactâ continuò et continuè evolvitur; nam eadem est constantia nutritionis per sanguinem in corporis fabricâ ad aliquod temporis spatium agentis, ac aëris, gravitationis legibus subjecti, vel virium chemicarum et electricarum in naturâ rerum externâ. Prout in aëre, sic in sanguine, incrementa et decrementa nutritionis et scatent et latent. Porrò autem, quò calor et nutritio corporis primordia sua instaurant, ibi, æquè ac nutritio constans, motus ille sanguinis a pondere aëris et cordis contractionibus in circulum postea agendi, formis nascentibus simul ipse nascens oboritur. Quis dubitet quin, si Harveius medicinæ studiis nunc interfuisset, satiùs putaret sanguinem ipsum et ejus motus internos, quàm sanguinis cursum in venis, studio et experientiâ exquirere?

Nec pudori sit mihi, etiam de me ipso loquenti, si honestè mihi gratulari possim, quòd, hujusce communitatis jamdiu socius, Harveio et sanguini in nullo tempore defui. In prælectionibus, annis abhinc viginti, de Materiâ Medicâ, et nuper in Lumleianis de Anatomiâ et Chirurgiâ, ad hanc sententiam, ad hæc ferè verba, Socios persæpe allocutus sum: "A medico Harveiano, sanguis qui ei subjicitur, ad medicinæ praxin utiliorem exquirendam, non modò quoad singulis corporis partibus in circulo actus suppeditat, perspiciatur,—sed etiam per se, quasi organon, (vel potiùs 'panorganon') omnes sensus, omnes motus, omnes functiones

[2] Uric acid and urate of soda from the blood of gouty patients. Traces of uric acid and urea from healthy human blood. Urea from blood in various diseases, as albuminuria, cholera, gout, etc. Fibrin from blood. Albumen from blood. Pure hæmatosin from blood, and its solution. Oxide of iron from blood. Microscopic specimen, showing the crystallization of uric acid on a hempen fibre in serum of blood from a gouty patient.

[2] Chloride of silver, of which the chlorine was recovered by Dr. Snow from the blood of an animal, killed by inhaling the vapour of chloroform.

omnium corporis partium, in se continens ; formativum,—electricum,—nervosum,—ex suis particulis, suis propriis viribus, contractilitatem, calorem, cujusvis sensus facultatem in singulis organis generans ;—denique, per molem suam integram suo modo vivens,—recipiens,—agens, et vel minimo temporis spatio plurima persentiens. Accipite nunc animis, Socii, sanguinis rivum corporis universum, universo aëri in pulmonibus proximum, universæ corporis fabricæ, mole eâdem et continuâ, penitùs circumfusum. Sanguis, vivus, continuus, ex his principiis constans,—et aëri et corporis fabricæ intermedius,—quid est, si non aër ipse, ad intimum nutritionis usum, inclusus, et commodus ! corporis internæ fabricæ atmosphæra, ut lubet dicere, alia et interior ?"

Sed ne in prælectionem de sanguinis usu et materiâ oratiuncula hæc, ad fastidium audientium, protrahatur, sine morâ cavendum est. Ah ! quàm vellem !—Sed de cæteris taceam ;—dummodo mihi fas sit perpaucis verbis, sed iis preces et gratias agentibus, iterùm coram vobis, Socii, donum illud cœleste extollere, ab Auctore cujusvis boni ad solatium hominum divinitùs missum, cujus vis ætherea in nervos per sanguinem diffusa, dolori, utcunque atroci, in principiis obstare valet.

En, quod a viris nostris principibus et mulierculis otiosis, æquè ac manipulatio mesmerica dignum est ut in patrocinium et clientelam recipiatur,—a religiosis philosophiæ faventibus æquè pro miraculo habendum, et gratâ mente excolendum ! In nervis duplicibus ad sentiendum propriis, quorum nutritioni sanguis ætheris vapore vel terchloridi Formyli suffusus per incrementa suppeditat, utcunque fuerint laniati vel aliter læsi, dolor vel quàm minimus gigni non potest !

Res planè mirabilis, res Dei ! et cui potest par oratio nulla inveniri.

Heu ! inter plerosque nostrûm, quàm crasso ingenio, quàm sine religione, in manus, sed non in animam receptum. Indigni ! ingrati ! An egestas hujusce animi nostri Anglici, in nummationem et titulos semper proclivis,—an angustiæ pectoris pathologici, particulis partium semper occupati,—an levitas ingenii medico-chirurgico-obstetrico-practici, haud, ut in tempore præterito, simplicis et concentrati, Deum in ipso opere præsentem non possunt perferre ?

Quid, si hoc munus anæsthesiæ, annis abhinc vix quatuor hominibus mucroni chirurgico subjectis concessum, quid si humanis legibus in usum humanum nunc repentè prohiberetur ? Quantus tum denique horror et luctus ! Quàm sæva indignatio ! Quæ misericordia puerorum, feminarum, infantium de novo sub chirurgi cultello luctantium ! Quantæ lacrymæ, cum gemitu, parentum et propinquorum circumstantium ! Tum denique pro beneficio dato si gratiæ non priùs actæ fuerint, ad donum recuperandum preces pro certo agerentur !

Non sic pius noster Harveius sanguinem, per ætheris vaporem, de dolore in nervis triumphantem in mentem suam oculis recepisset. Non ille, medicus, philosophus, poëta, hoc pro adoratione indicium, quasi *nebulam æstivam*, sine admiratione singulari prætermisisset. Ubi ! ubi ! est ea Religio Medici ? *αἴσθησις* illa artis suæ et ejus propositi, quæ his verbis exprimitur, "Homines nunquam ad Deos propiùs accedunt, quàm Dei naturam contemplando, et salutem hominibus dando."

Ingenium medici, cùm sit in omni re ad facultatem agendi præcipuè excolendum, sit semper æstheticum. Id quàm multis et variis modis Harveius noster nos admonet ! Homo, si ullus, virilis ingenii, cujus scien-

tia famæ æternitati suppeditat, homo principibus reipublicæ necessarius, qui scivit etiam regibus uti, quid nobis Sociis, hæredibus suis, jam nunc moriturus, præcipuè injungit? Estote amantes! estote amici! Quis, magis quàm ille medicus octogenarius, compertum habuit, ut hæc quotidiana, laboriosa, nostra vita, inter mortuos, moribundos, animi et corporis dolore miserrimè excruciatos, perpetuò acta, affectuum lenium solamine perpetuò eget; ut, sine amore et amicitiâ, plane intolerabilis foret! Næ ille Harveius noster, præ omnibus, scivit et sensit, sine corde et sanguine nullam esse cerebri vitam. An majore sapientiâ, vel in longius ævum pro domûs nostræ honore et auctoritate, ab ullo prospectum esse potuerat?

Neque pro dubio sit, Socii, Harveium, cùm inter nos amorem et amicitiam quasi testamento suo præcepisset, non solùm doctores in medicinâ Londinenses, sed insuper medicos totius Angliæ regni, domi, foris, terrâ, marique, artem suam exercentes respexisse; illis enim temporibus Collegium hoc nostrum universæ medicinæ Anglicæ domicilium fuit. Harveius ipse, nonne per longos annos Anatomiæ et Chirurgiæ prælector fuit? Nonne constat, Socii, venerandum illum nostrum, cùm nos in festum suum annuum convocavit, non cœnas illas tabernarias quorundam in concionabulum symbolis adscriptorum respexisse, —non prandia illa, fastidii, arrogantiæ, invidiæ plena, certatim fastuosa, ab uno in alterum, a singulis vice suâ expletâ, quasi pro debito et censu imposita;—non ista vana amoris et amicitiæ simulacra,—sed animi, voluntatis, propositi conjunctionem,—qualem ipse cum suis dilectis, Georgio Entio, et sociis aliis ejusmodi,—qualem cum fratribus suis, per tot et tanta rerum discrimina, de anno in annum servavit.

Catholicum istum amorem Harveianum erga fratres suos uniuscujusque ordinis medicorum non omnino in corde et venis hæredum ejus extinctum esse, indicio sit supplicatio hujusce Collegii nostri, tribus mensibus vix exactis, ad senatum, pro auxilio chirurgorum juniorum navalium ab iis qui imperant indignâ vitæ ratione et disciplinæ lege jam diu afflictorum, unâ voce decreta et ad curias utrasque relata. Pro futuro faustum sit omen!

Odia, simultates, objurgationes, etiam inter hujusce ordinis medicorum principes aliquando innasci, quis sanus et sincerus se nescire profitetur? Inter nosmetipsos Harveii vocem paternam nunquam non desiderari,—nunquam silere debere,—heu! nuperrimè et quam publicè patet! Crimina in socium falsa, conficta, a quibusdam nostris temerè credita, quàmvis per se absurda,—epistolæ, aliquâ offensione interpositâ, in medium prolatæ,—joca, inepta, in deteriorem partem accepta,—omnia hæc typis publicis commissa ad ludibrium etiam alumnorum puerorum perlegentium assiduè pervulgata sunt. In jus publicum ab auctoribus ipsis traditæ, et quasi præconibus ultrò subjectæ, protervitates illæ et omnes ejusmodi in hoc medicinæ Anglicæ foro publicè condemnentur, et, sine invidiâ, a communitate nostrâ repudientur.

Quid me respicitis, Socii, dum hæc invitus loquor? In hàc allocutione pro nihilo sum. Censor est Harveius;—non ego, qui ex rostro judicium ejus vicarius proclamo.

Quid diceret Harveius?—Ad hujus sententiæ normam, (licetne verbum recordari?) omne quod in proposito huic meæ orationi fuerit, redigere

conatus sum. An melius possem? Noscite eum, perlegite eum, Socii. Dignus est, quem ex solertiâ, indulgentiâ, vitæ communis scientiâ, in quâvis rerum juncturâ consiliarium adhibeatis;—cui amico, tutori, patri obtemperetis. Harveii vitam atque epistolas legenti, et de ejus ingenio, de mirabili ejus constantiâ cogitanti, hoc mihi quàm sæpè intercidit! Εὕρηκα tandem hominem! Contumeliis ab iis, quibus maximè sententia ejus immortalis serviebat, assiduè insectatus;—in clientelâ et in re pecuniariâ multùm ex eâdem causâ imminutus;—amentiæ etiam, quia totâ non errabat viâ, accusatus, nunquam vitæ innocentiam amisit, sed benevolentiam constantiæ suæ adæquari et pari passu incedere usque ad finem curavit. Principibus viris placuisse, jure morum, ingenii, doctrinæ, ei præ cæteris contigit; sed horum favor ultima ejus laus erat. Quàmvis parvolus, non parasitaster, nullis divitum liminibus vel cœnaculis, ad clientelam intentus, insedit.

Regis archiater, philosophus evasit.

Ad risus aulicorum, ad blanditias muliercularum exquisitarum suscitandas nunquam se instruxit. Neque chirurgorum, neque obstetricorum, nec pharmacopolarum favori inserviit, quò ex alicujus subdoli vel ambitiosi amplitudine præsidia et adjumenta sibi conciliaret. Nempè Harveio, Anglo, medico, philosopho, servitus omnium malorum postremum erat.

Ex ineptiis, nummatione, arrogantiâ, servilitate, hujusce ævi nostri, quàm jucundum, quàm utile,—immò etiam nobis medicis quàm necessarium, quemque aliquando se abstrahere et quasi renovare, mores et vitam per alicujus viri Harveiani, vel, ut nunc, ipsius Harveii recordationem contemplando.

Necnon in viris temporis acti principibus eadem est ratio laudis falsæ ac veræ, eadem infrequentia singularis in singularibus virtutis. Profectò, veteris illius Angliæ fastos perlegentibus quàm mirum nobis incidit, ut hæc patria nostra adhuc superstes manet!

Delirant reges, perfidi, truculenti,—furit plebs, rauca, varia, immanis. Inter imperatores,—magistratus,—sacerdotes,—senatores,—inter omnes officiis publicis fungentes, quanta fraus! quæ insidiæ! in amore sui, quæ pertinacia!—pietatis in Deum simulatio quàm sordida! Heu! etiam quæ sævitia!—flagitia quàm immania et varia!—quotuplex infamiæ species!

Confer Harveium nostrum, philosophum, amicum, amantem, octogenarium,—omni officio vel civis vel medici perfunctum,—tranquillam vitam degentem, de die in diem omnibus suis cariorem,—e marmore, inter compares suos, etiam manente spiritu, constitutum; confer illum nostrum medicum, quàmvis nullo titulo, nedum equestris ordinis, insignitum, cum illo Verulamio prænobili, in omni doctrinæ genere præclaro, summi magistratûs officiis perfuncto, regi et principibus necessario,—imminente autem senio, abjecto, contempto, debilitato, conscientiâ suâ convicto, ignominias, quales nemini antea contigerant, ob flagitia sua, se meritum esse confitente. "Homini homo," philosopho philosophus, "quid præstat!"

Respicite etiam illum alterum Harveio temporis consortem, Cokium Edvardum, summi ingenii causidicum, summâ potestate judiciali præditum,—ejus avaritiam, inhumanitatem, sævitiam, servilitatem; quibus quid acrius, tetrius, libero homine indignius dici vel excogitari potest! Quæ causa est, Socii,—quomodo fit, cùm Harveii et horum duorum

temporis ei consortium fama, quàmvis in diverso genere, sit summa et æqualis,—quòd medicus à causidicis tantùm verâ laude et existimatione apud posteros distet.

Hi duo, et unus et alter, ambitione et cupiditate excordes erant. Ille noster, affectus lenes simul cum ingenio excolens, in omni quod volebat, studebat, agebat, cordis et sanguinis humani rationem semper adhibuit.

Est, sit Deo laus, est adhuc quod redundat in gente nostrâ Harveiani ingenii, judicii, morum, et fidei, quæ mole suâ singulorum protervitates comprimit, pravas ambitiones adumbrat, rem publicam contra audaciam virorum ejus principum singularium defendit, et hanc Angliam nostram, qualis et quanta sit, efficit et conservat!

Depascatur animo is cui curæ est virtutem Anglicam contemplari, Harveii vitam et mores, necnon illi temporum consortis Hampdeni, patriæ servatoris,—et nobilis illius Falklandi, ob horrorem belli civilis animam suam libenter effundentis.

Hæc enim est virorum indoles illa Anglica, integra, mera et vera, solo nostro indigena, constans, gravis, animosa, Wellingtoniana, ex quâ respublica nostra, inter gentium cæterarum damna et excidia, vires et incrementa capit. Hæc est ea inter nos vis opinionis publicæ, quæ potiùs ex multitudinis in omne paratæ inertiâ quàm ex ordinis vel principis cujusvis industriâ, conficitur.

Ex iis, quibus respote multis nullum tempus suppeditat, quæ de nostro dilecto adhuc dicenda restant, hoc saltem unum, Socii, si nullum præter hoc, accipite, quæso, verbum. Terræ hujusce Anglicæ, immò etiam Londinensis, solum, quod nos incedimus, consors temporis, loci, cœli, fortasse etiam sententiæ et colloquii, ἡμίθεος ille Shakespeare unà cum Harveio per longos annos incessit. De motu cordis, de sanguinis circuitu sententiam, ab Harveio medico, arte, experientiâ, præceptis, doctrinâ, mox in omne ævum confirmandam, quot miris modis ille poëta dramaticus, naturâ ipsâ validus, et mentis viribus excitatus, et quasi divino quodam spiritu inflatus, ut ex imo corde et a sanguine ipso audientium sentiretur, expressit, et ante ora hominum ex scenâ per actionem præfiguravit!

Nec lateat vos, Præses et Socii, in annum proximum prospicientes, in hanc arcem gentium, in hoc domicilium clarissimi imperii Britannici, ex omnibus terræ regionibus homines longinquos et alienigenas ad festum solemne artium et scientiæ celebrandum jam diu accersitos esse,—immò, se et sua jamdudum ad iter accingi.

Laus et honor Principi illi generoso et illustrissimo, cui primo in mentem venit, ut familiam gentis gnavæ et industriæ universam per totum terræ orbem dispersam, pro unâ saltem vice, Britannia materfamilias in hanc domum suam communem fraternè convenire juberet. "Felices certè artes, cùm virorum in republicâ principum ingeniis excoluntur!"

Hasce ædes nostras, hanc domum Harveii, advenæ isti medici certè visuri, sive Gallici, sive Germanici, e Columbiâ trans æquor Atlanticum Anglo-Germanici, sive ab oris Russicis Sclavonici,—liberi, servi, sive libertini, Collegium hoc nostrum medicorum Londinensium, neque urbe Londinensi, neque imperio Britannico indignum esse libenter fateantur! Divitiæ pathologicæ, a Bailliæo apud nos repositæ,—picturæ,

busta, supellex omnis,—tabellæ istæ præsertim anatomicæ ab Harveio ipso, Paduæ, ut dicunt, elaboratæ, et nuper a nostro Sedgvickio partim restitutæ,—omnia sint in promptu, et ad lustrandum parata. An dubium est, quin hic ordo noster in urbe Londinensi medicinæ doctorum, se in occursum hospitum, fratrum et sodalium, sedulò accingere debeat? Solertes, artis medicæ dignitati intentos, amicos præsertim inter nosmetipsos et amantes, advenæ medici nos ultrò agnoscant. Pro cognitione et hospitio, quibus conveniat, in epulas solennes vocentur,—immò etiam quidem, ob ætatem, experientiam, et mores eximios in hanc societatem nostram honorificè recipiantur.

An decet? Nonne constat? Ah! desine, qui veræ laudis amantes nos sic lactares, et falsâ spe produceres! Cùm tantis injuriis, tam crebris repulsis, tam usitatâ neglectione ab iis qui imperium exercent in foro imminuimur,—cùm pro vitâ nostrâ etiam adversus nostros de die in diem dimicandum est,—anne in officia humana et liberalia, honoris erga exteros causâ, hoc proximo anno vacare poterimus!

Præterea, vectigalia desunt. Etiam ad festum hoc hodierno die ab Harveio inter socios præscriptum, non suppetit res. Laus et honor impransis! Teneatis risum! honesta est paupertas! In ratione morbi Asiatici, pro salute communi, exquirendâ, omne quod nostri in promptu erat jamdudum est impensum! In seria, in rem veram, redeamus!

Ut de summâ Collegii hujusce nostri, ut de salute et vitæ ratione omnium nostrûm in his diebus agitur, quis, re verâ medicus, se inscium profiteri potest? Fides, reverentia, auctoritas, existimatio, medicinæ haud, ut antea, incedunt comites. Eruditio, artium liberalium amor et studium, literarum decor ille sine pretio æstimandus, inter practicos et nummatos pro nihilo habentur. Caremus foro, caremus curiâ, caremus publico. Publico carentes, nulli et nuspiam sumus! Nimiùm, nimiùm diu, Socii, aciem auctoritatis nostræ hebescere nos patimur.

Quare quasi ex somno nos invicem excutiamus, et expergefacti provideamus, "ne longiùs populo, fratribus, nobismet ipsis deesse videamur, ne præ ignaviâ et socordiâ diutiùs circumspectantes omnia, quidquid increpuisset pertimescentes, diffidentes nostris rebus, sine voce, sine libertate, sine auctoritate, aliquando abjecti, contempti a cæteris, a nobismet ipsis desperati et relicti fuerimus."

Ut in religione, sic in Medicinâ, quæ duæ in omnibus sæculis habent commune quoddam vinculum, et quasi cognatione quâdam inter se continentur;—ut in rebus sacris, sic in rebus medicis, experrecta tandem virtus illa antiqua Anglica in pristinam auctoritatem suam se suo jure vindicet.

Contra has violentias, contemptiones, repulsas, quibus noster ordo jamdiù affligitur, quæ vires opponendæ, quibus armis contendendum? Auctoritatem nostram ad potestatem pristinam recuperandam privilegiis et judiciis in futurum amplificandam esse, nemo sibi in propositum adsciscatur. Neque diplomata passim in provincias mittendo, nec pocula, collatis medicinæ forensis auctoribus, præmium, e testamento medici insani porcini adjudicando;—nec diplomati nostro ad licentiam in urbe practicandi concesso titulum in medicinâ doctoratûs supponendo;—neque chirurgos in nostra consilia de rebus nostris propriis accersendo,—(eos chirurgos *haud impuros* respicio, nostræ conditionis æmulos,

atqui nostram medicinam haud *purè* agentes;)—neque quartum id genus, mistum, varium, turbulentum sollicitando;—nullis ejusmodi rationibus nobis ad salutem via reperienda est. Ad defendendum omne quod ab Harveio et aliis nostrûm benefactoribus tantâ gloriâ recepimus (quod non tueri et conservare posse esse turpissimum,) semper nobis persuasum sit, Collegium hoc nostrum ad morbos curandos, ad hoc opus, diplomate regio institutum fuisse;—ad hanc salutis publicæ glebam in perpetuum lege publicâ nos esse adscriptos;—porrò etiam sit semper nobis in præsenti, nostram hanc communitatem medicorum Londinensium omnes alios medicos, omnes ejusdem facultatis homines virtute suâ in se continere.

Medicinam operosè et in foro agere,—ducere potiùs quàm sequi, quâcunque incedimus ad medicinæ disciplinam viâ,—hæc sunt juris nostri et officii; his prætermissis, tabescimus et perdimur.

Quinetiam benevolentiâ et caritate civium universorum, ad benè et viriliter agendum, nos septos esse oportet;—neque id nos celari, quòd non minùs opinione famæ, quàm aliquâ certâ ratione in re medicâ vulgus commovetur; quòd non in tabellis paucorum judicum, sed in sententiis omnium civium fama nostra et fortuna repositæ pendent.

Talia cogitanti, et ex hisce cogitationibus in annum proximum prospicienti, quanta, et quàm subita, mihi lux oboritur!

Diploma regium, de novo nobis concessum, en domi tandem recipimus!

Quæ hæc est turba comitantium? Pateant portæ!—In limine sit Præses!—Assurgite Socii!—Victoria ipsa ingreditur fores!

Salve Regina!—Regina nostra, ter, terque ter, atque iterùm, salve!

Dilapsa hæc domus nostra, et sine te caduca, te receptâ, in fortunam recipitur suam!

Collegii nostri, diplomate regio (faustè sit dictum!) jam tandem post longa æva renovandi, et fructus suos in salutem publicam de novo reddituri, ad quem primitias deferre præstat, quàm ad illum, qui, amoris et consilii particeps, amore et consilio imperii consors, quotidianis precibus, parens et maritus, in thalamo regio instauratur;—ad illum Albertum, quem inter nostros, præ cæteris, Principem omnes libenter agnoscimus.

Accede, Princeps, ad dexteram Præsidis nostri, in sellam honoris et gratiæ causâ tibi soli præpositam. Comitiis nostris, socius inter socios, civis inter cives saluti publicæ consulentes, prout libeat, subinde intersis;—institutis nostris si qua bona fuerint, in auxilium venias,—concionibus ob beneficia recepta solenniter, ut nunc, habitis, auctoritatem regiam impertiri ne fastidias.

Eorum, qui, diplomatis regii Tudorii jure, pro Harveio nostro oratores exstiterunt, alter et ultimus ego Wilsonus, ad subsellia e rostro jam descensurus, fausta omnia, pro hâc vice cordis et sententiæ uniuscujusque Socii interpres, in Collegium nostrum haud irreverenter, et quasi flexis genibus imprecor.

Sit domus hæc nostra, cùm universis publica, tum singulis ut sua! Domûs dominam scientiam lenitas et indulgentia morum, ancillæ comitentur! Scientia sit vera, severa, fervida, constans, operosa, studiis humanioribus haud arroganter, sed penitùs imbutâ!

"Instituti rebus optimis non poetarum voce commoveamur!" Hæc

studia enim medici Harveiani "adolescentiam alunt, senectutem oblectant, secundas res ornant, adversis perfugium et solatium præbent, delectant domi, non impediunt foris, pernoctant nobiscum, peregrinantur, rusticantur."

In nostrâ republicâ, quod verum est, sit pro re,—pro imperio, religio veri,—pro lege supremâ, populi salus! Sit unitas in communitate,—in communitate unitas!

Ad hæc tuenda et conservanda sit nullum inter nos jusjurandum!—si ullum, in verba hæc; "Experientia!—Amor!—Amicitia!" verba ipsius Harveii,—verba omnium ætatum, temporum, locorum!—Leges, mores, etiam diplomata regia, humana omnia mutantur. Amor et amicitia a Deo sunt, et manent.

Veniam date!

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THE UNITY OF NATURE. By CHARLES BLAND RADCLIFFE, M.B., Lecturer on Vegetable Physiology and Botany at the Westminster Hospital, etc. pp. 150. London: 1850.

It is not difficult for the educated mind to perceive a wonderful simplicity and a complete uniformity of plan, amidst the numerous and apparently complicated works of creation. The notion of the Unity of the Godhead, as it is inculcated in the Sacred Volume, is corroborated in every particular by the researches of science. The objects composing the animal, the vegetable, and the mineral kingdoms, appear to the careless or superficial observer to consist of a multitude of forms, capriciously varied in a thousand ways, and bound together by no common tie: but to the student who penetrates beneath the surface, who investigates nature in her inmost recesses, who traces her footsteps by the aid of the microscope, the scalpel, the crucible, the blow-pipe, and the test-tube, the chaotic elements arrange themselves into definite order, confusion gives way to system, and the apparent discord melts into harmony. The beings which compose the material world are found to compose the numerous and varied links of a continuous chain, which extends from man to the monad, from the mountain to the grain of sand, from the forest-oak to the fucus on the sea-shore.

The present work exhibits, in a short and comprehensive form, a view of the Unity of Nature; and, in the execution of his task, the author has reflected the highest credit on himself as a scholar and a philosopher. He has not allowed himself to be led away into the nebular region of false analogies, loose reasonings, and forced comparisons, into which many, pursuing the same fascinating theme as himself, have permitted themselves to be betrayed; but he has followed, throughout, the path of sound and cautious induction, and his conclusions, therefore, are for the most part just and well-founded.

The author first considers the Unity of Form displayed in the Animal and Vegetable Kingdoms; and he gives a very good abstract of vegetable morphology, the first development of which he justly attributes to the poet Göthe. He shews the identity of the cotyledon with the leaf; of the latter organ with the sepal and the petal; of the petal with the stamen and with the carpel; thus proving, that the leaf is in fact the type of all the other organs of the plant. The ovules, again, are shewn to be leaf-buds analogous to those which appear on the edges of the leaf in malaxis paludosa, bryophyllum calycinum, etc.; and the leaf-bud is the analogue of the flower-bud; and the flower with its envelopes is therefore composed of several whorls of metamorphosed leaves arranged around a common axis. The leaf is also shewn to be analogous to the tendril and to the root. As an instance of Unity of Form in the Animal Kingdom, he adduces the instance of the common prawn, in which there is a series of appendages, some developed into prehensile limbs, some into locomotive organs; but these parts in the cephalic and caudal regions become converted, in the former, into the oral and manducatory apparatus and into the antennæ and eyes, and, in the latter, into the rudimentary false legs to which, sometimes, the eggs are appended. From this humble crustacean, the author ascends to the other and more highly developed forms of being; and from the appendages of the prawn are derived the legs and wings of insects, the fins of fishes, and the hands of man. Ascending from the separate parts to the whole, it is next shewn that the stem of plants is only a highly developed leaf or assemblage of leaves, and, like those organs, capable of producing buds upon its surface; and the analogy of the stem with the root is completely established by the vicarious functions occasionally performed by those organs, and by the ex-

istence of structures intermediate in position and office between stems and roots, such as tubers and rhizomes. In like manner it is shewn, that the body of the animal is to be considered as a series of its organs. In the lobster, the caudal part of the body is an instrument of motion; the posterior part of the scorpion becomes a slender poison-spiked tail; the caudal prolongation in some of the vertebrata becomes an organ of swimming, in others of prehension, or of support. In the cephalic region, the suctorial disc of the leech is the analogue of a limb, and the anterior prolongation of the cephalic axis is seen in the sucker of the lamprey, the weapon of the sword-fish, the snout of the gavial, the bill of the swan, and the proboscis of the elephant.

The visceral region of the bodies of animals is now considered in another point of view, and the whole series of animal forms are divided into the *vertebrate* and the *annellose* type, in the first of which the skeleton is internal, in the latter external. But in some cases, the characters of both become blended together, as in some of the cephalopoda, where the skeleton is both external and internal; and in the chelonian reptiles, where, although the type is vertebrate, yet the annellose form is traced in the external bony investment of the body.

The animal and vegetable are shewn to resemble one another in many important and striking particulars; and the following passage, although perhaps too fanciful for the severity of philosophical induction, deserves to be quoted as a favourable instance of the author's style:—

"The unity of creative design in animal and vegetable forms is not obscurely revealed in nature. In the orchidean family, the transition to the animal character is very marked—roots hang loose and free, as careless to infix themselves in the earth, and animal-like flowers tremble in the breeze as if about to escape from the stem which imprisons them. The peristeria elata, or dove plant, a form in which the flower is the perfect image of a dove with outspread wings embosomed in a rose-like crown of white sepals, is, indeed, the symbol of the communion of the plant with the higher members of the animal kingdom—the embodiment, in a visible form, of the dream which inspired the song of Ovid in former days. In the mantis siccifolia, or the walking-leaf, on the other hand, the wings and the wing-like legs so closely resemble leaves and petals in colour and venation, that the insect seems an emancipated orchis flower. And other animals are equally suggestive of the memories of the orchideæ: thus in the balanoids, or acorn-like cirripedes, the shells are arranged in a flower-like whorl: the crustacean animal lies within this whorl, as the dove within the flower of the peristeria elata, and the entire animal is connected with the earth by a peduncle, or root."

We regret that our space will not allow us to follow our author farther in his very interesting reasonings and illustrations; and we lay down the little volume with the same feeling of regret, as one would feel on parting with an agreeable and intelligent friend. The tone of the work is excellent; the knowledge of comparative anatomy and botany which it displays, is accurate and extensive; the language is elegant, sometimes almost soaring into poetry; and a deep sentiment of religion gracefully pervades the whole.

PATHOLOGICAL RESEARCHES ON DEATH FROM SUFFOCATION AND FROM SYNCOPE, AND ON VITAL AND POST-MORTEM BURNING. By SAMUEL WRIGHT, M.D., Professor of Clinical Medicine in Queen's College, Birmingham. pp. 34. London: 1850.

These researches, which are highly interesting in a medico-legal point of view, were suggested by a suspicious death at Bridgnorth, under circumstances of peculiar obscurity. The deceased had been in her usual good health three or four hours previously to the discovery of her remains, and the body exhibited the marks of severe burning. The *post-mortem* examination revealed congestion of the brain, excessive congestion of the lungs, and

engorgement of the right cavities of the heart with black semi-coagulated blood. Dr. Wright, who was called to give evidence on behalf of the crown, expressed his belief, that the woman had died of suffocation, and that the burning was *post-mortem*.

This little work is divided into Six Sections, in the first of which the author notices the Morbid Appearances after Death from Suffocation; and he comes to the conclusion, that they consist of fulness of the vessels of the brain, congestion of the lungs, and complete engorgement of the right cavities of the heart; and that, of all these conditions, the last is the most constant and obvious. Dr. Wright also states his conviction, founded upon experiments and numerous observations, that the appearances just alluded to are the constant results of death from suffocation, and that they cannot, indeed, when they occur together, be attributed to any other cause.

In the next section, the author considers the question, whether poisoning by the gaseous products of combustion leaves morbid appearances resembling those occasioned by suffocation? and he comes to the conclusion, that although they are similar, they are by no means identical. The following were found by the author as the principal appearances after death by carburetted hydrogen: the cavities of the heart filled with bright red blood; lungs slightly collapsed, and marked with red and whitish patches; trachea and bronchi containing a little frothy mucus; brain, pinkish upon its surface, and its vessels moderately filled with florid blood. In poisoning by carbonic acid, the brain is most implicated; in suffocation, the heart and lungs are the chief organs affected. Carbonic acid owes its poisonous properties in great measure to its sedative action, and in some of the cases noticed, of poisoning by this gas, the cavities of the heart were found empty. There is therefore a broad distinction between suffocation and poisoning by the gaseous products of combustion; although upon this point the author refrains from expressing an absolute opinion.

In the next section, the author considers the mode in which sudden death occurs from burning, and he concludes that the fatal result in such cases is due to syncope; and that, when internal congestions exist, they are observed in cases where the patient has survived for some time. Dr. Wright considers, and, we think, justly, that the *instantaneous* production of congestion in the capillary and other vessels of an organ, is a physical as well as a physiological impossibility. Several cases of fatal syncope are then recorded, in all of which the heart was empty.

In the fourth section it is asked,—How are the internal organs affected by sudden and permanent collapse of the superficial vessels? The answer given is, that the result in such cases is the undue filling of the deep-seated organs *with blood more florid than that which they usually contain*. In a case where death had taken place twenty minutes after a severe burn, Dr. Wright found all the large internal veins and sinuses of the brain full of bright red blood; the lungs were almost scarlet, but scarcely turgid enough to be called congested; the mucous membrane of the trachea, bronchi, stomach, and intestines, was extensively marked with patches of redness and with florid capillary vessels, and the liver was engorged with blood much brighter than usual. The same results were obtained in an experiment performed upon a rabbit, killed by a smart blow upon the back of its head, and then thrown upon a bright fire, and burnt for half a minute.

In the fifth section it is shown, that burning, during life, *in a healthy subject*, is never unattended with marks of redness; and that, when such marks are absent, the patient has been diseased. It is shown, that in a *morbid* or *depressed* condition of the system, it is impossible to produce redness in the skin by the actual cautery, by boiling, by strong mineral acids, by hot turpentine, or by aqua ammoniæ.

In the last section, the author discusses the question, whether a blister can be produced by post-mortem burning? This effect appears to depend

upon the mode of death, and the period which has elapsed since death; but it seems to be proved, that such a result may ensue under certain conditions. Dr. Wright has succeeded, after many trials, in producing a post-mortem blister by means of a spirit-lamp, which he considers the best agent for the purpose, as it is clean, and may be regulated at will. He made two experiments upon the body of a female, thirty years of age, who died suffocated from acute congestion of the lungs. "*Three hours and a half after death*, when the body was quite warm, and the joints flexible, the flame of a spirit-lamp was applied to the lower and back part of the left leg, and to the lower and anterior part of the left thigh. After the lapse of an hour, blisters had arisen, filled with serum of a pale straw-colour, and readily coagulable by heat. But neither around nor beneath these blisters, was there the least shade of redness." In the second experiment, made *ten hours after death*, when the body had become rigid and cold, flame was again applied, and the application was repeated at the end of *fifteen* and *twenty hours*. In each instance, only a gaseous blister was produced.

Dr. Wright therefore considers, that *sudden death* by burning is caused by syncope and emptiness of the cavities of the heart, not by congestion of the internal organs and by suffocation; and that if a person be *just suffocated* and then *thrown upon a fire*, it is quite possible to produce such vesications as may somewhat resemble those produced by burning during life; although he points out the distinctions which may be drawn between the two conditions.

On the whole, this little work contains a great quantity of original and useful matter, and it will undoubtedly add to the well-earned reputation of the accomplished author.

THE CAUSES, SYMPTOMS, AND TREATMENT OF ECCENTRIC NERVOUS AFFECTIONS. By W. S. ANDERSON, F.R.C.S. Post 8vo., pp. 199. London: 1850.

The subjects embraced in this little book are numerous and important, comprising all those many disorders of the nervous system, which depend upon other causes than absolute disease or injury of the central organs, the brain, and spinal cord. This is a large field, and one which, for its successful exploration, demands not only a considerable amount of personal experience, but also the power of tracing out indications of common origin, that lie hidden beneath the surface, analogies and differences which are not perceptible at first sight, nor to be found without diligent search and clear-sighted philosophical investigation. Mr. Anderson has not attempted anything of this kind. He has chosen the easier and more common path; and therefore, while presenting us with a very fair sketch of the external phenomena of the disease in question, and describing and enforcing rules of treatment which are quite established and perfectly judicious, he has not added anything new to our stock of knowledge.

The work is divided into six chapters. The first is anatomical, and should have been left unprinted. It is a great mistake to suppose, that such necessarily meagre accounts can add to the value of any book. To those who know anything of anatomy and physiology, they are altogether needless; to any readers who might be previously ignorant of the subjects, they would be worse than useless.

In the second chapter, we are presented with the differences between centric and eccentric nervous affections; a difference illustrated by two cases, one of fungoid tumour in the right cerebral hemisphere, the other of chest disease and fever. We might take exception to the latter case, as not falling correctly under the class of eccentric diseases, as defined by Mr. Anderson himself; for it can scarcely be affirmed, that the nervous symptoms were induced "by direct irritation, either of the peripheral extremities of nerves, or of the nervous trunks themselves, connected with the cerebro-spinal system." They were probably toxæmic phenomena, dependent on the morbid

blood irregularly and abnormally stimulating the central organs, brain, and cord. But on this, we do not insist. Mr. Anderson then speaks of the effects of mental emotion; illustrates the fact that poisons may be received from extraneous sources, or generated in the system itself, and that in both ways the nervous system is affected secondarily; and then narrates some experiments devised to show the difference between reflex action and the motions of irritability.

The third chapter treats of hysteria, chorea, and hypochondriasis. The fourth is devoted to epilepsy. In the fifth, collapse, delirium traumaticum, and tetanus, come under review. And in the sixth, we have the nervous diseases which are especially dependent upon a poisoned state of the blood, among which are enumerated delirium tremens and hydrophobia.

De Colica Scortorum Disquisitio. Autore Martino Hassing, Dr. Med., Medico Secundario Nosocomii Communis et Legionis Civilis Havniensis, Regiæ Societatis Medicæ Havniensis Socio. pp. 100. Havniæ: 1848.

This dissertation contains the history of ninety-two cases treated in the Hospital of Copenhagen. The patients were all prostitutes; and the author considers that the disease, under which they laboured, originated almost entirely from the peculiar mode of life adopted by the class to which these persons belonged. He supports his views by some anatomical and physiological reasoning, and also by the fact, that some of the patients had repeatedly suffered from the disease while pursuing their avocations, while, on marrying and becoming orderly in their life and conduct, the complaint entirely left them. The affection appears, from the author's account, to differ little from ordinary colic: and it yields to ordinary remedies. It does not seem to be a fatal or even a very dangerous disease, as none of the patients died. The author is inclined to attribute it to the irritation of the sexual organs, and to the connexion between those organs and the colon, through the medium of the sympathetic system. We hardly think that the author has succeeded in establishing the existence of a distinct form of disease; but we must do him the justice to say, that his Thesis is written in classical language, that it offers a good example of medical reasoning, and that the treatment recommended is judicious.

Memoir on the Influence of Hypertrophy and Dilatation on Diseases of the Heart, and on some points in their Diagnosis and Treatment. By A. Halliday Douglas, M.D., Fellow of the Royal College of Physicians, Edinburgh, Physician to the Royal Infirmary, Lecturer on Clinical Medicine, etc. pp. 49. Edinburgh: 1850.

This is a very valuable contribution to clinical medicine, because it contains the history of several cases of interest recorded with care. We confess, however, that we do not understand the meaning of the title prefixed to the work, namely, "the Influence of Hypertrophy and Dilatation on Diseases of the Heart." Surely Hypertrophy and Dilatation *are* Diseases of the Heart; and therefore the meaning must be, that Hypertrophy and Dilatation influence themselves. But we are the more astonished at the title, when we read in the first page that "Hypertrophy and Dilatation of the Heart have been long and justly regarded as conditions *secondary in their nature*, and depending on some obstruction to the circulation. They may arise from causes widely different from each other: but the most usual, as well as the most important, are the organic affections of the heart, and few of these exist without more or less hypertrophy or dilatation." Here again, there is another ambiguity of expression; for hypertrophy and dilatation are said to arise as "complications of the organic diseases of the heart," although we should imagine that both hypertrophy and dilatation are themselves organic diseases

of the heart. We strongly recommend the author to alter the title of his work, which in many respects merits commendation ; and to revise his pathological reasonings.

In the first section of the work, the author relates the history of four cases of hypertrophy with dilatation, which diseases he considers, and we think justly, to accompany each other in the great majority of cases. Death ensued in all the cases, and the post-mortem appearances are given in three. The author considers that the application of leeches to the scrobiculus cordis is beneficial in this form of cardiac disease. He also gives it as his opinion, that *hypertrophy* acts temporarily, and causes local effects upon some distant organ, such as the brain, producing apoplexy ; and that *dilatation* causes more permanent effects on the entire system, through the impeded circulation.

In the second section, we have the account of four cases of aneurism of the heart, all of which were associated with hypertrophy and dilatation of the organ. The diagnosis of the aneurism was of course obscure during life, owing partly to the uncertainty which hangs over this lesion of the heart, and partly to the complications existing in the cases recorded. The author does not consider that he has elucidated the diagnosis of this disease, and of course all treatment must be unavailing ; but the cases are interesting, and are well recorded.

The rest of the work is devoted to the consideration of contraction and incompetence of the valves : the three first cases were all attended with hypertrophy and dilatation, and all terminated fatally. The author then gives the leading facts of sixteen cases of valvular disease ; of whom *three* were known to be alive at the time of the report, but were suffering from the usual symptoms characterizing obstructed circulation through the heart, *three* were lost sight of, and *ten* were known to have proved fatal.

The author concludes his work by giving a series of cases of incompetence of the valves, in which those structures, although not seriously diseased, were nevertheless unable to perform their proper function. These cases are considered by him to be the more dangerous in proportion as they are complicated with hypertrophy and dilatation ; and indeed he believes that valvular incompetence, or in other words, that condition which produces regurgitation, is not generally of itself productive of an obstructed circulation, even though the disease may have been of considerable standing.

We may close our notice of this little work, by repeating what we have said before, that although the cases recorded form a very valuable addition to our clinical knowledge of diseases of the heart, yet the remarks of the author are often loose, ambiguous, and even, sometimes, contradictory. Had Dr. Douglas bestowed as much pains upon his commentaries as upon his cases, his memoir would have claimed a very high meed of praise.

A Much Less Painful and More Scientific Method of Extracting Teeth. By Henry Gilbert, Esq., Surgeon-Dentist. Third Edition. pp. 24. London : 1850.

Mr. Gilbert's method possesses many and obvious advantages. The instrument is used independently of the gums, teeth, or jaw, and the teeth are extracted *perpendicularly*, or in the line of their axis.

CLASSIFIED CATALOGUE OF THE PAPERS WHICH HAVE APPEARED IN THE BRITISH AND FOREIGN MEDICAL PERIODICALS FROM JANUARY 1849.

CHAPTER II.

SURGERY. BRITISH AND AMERICAN JOURNALS, FROM JANUARY 1849 TO JUNE 1850. BY ALEXANDER HENRY, M.D.

The following is a list of the Periodicals, with the abbreviations used in referring to them :—

London Journal of Medicine	Lond. Journ. of Med.
Medico-Chirurgical Transactions	Med.-Chir. Trans.
Guy's Hospital Reports	Guy's Hosp. Rep.
Lancet	Lancet.
Medical Gazette	Med. Gaz.
Medical Times	Med. Times.
Provincial Medical and Surgical Journal ...	Prov. M. and S. Journ.
Edinburgh Medical and Surgical Journal ...	Edin. Med. and Surg. J.
Monthly Journal of Medical Science	Edin. Month. Journ.
Dublin Quarterly Journal	Dub. Quart. J.
Dublin Medical Press	Dub. Med. P.
American Journal of Medical Science	Amer. Journ. of Med. Sc.
Philadelphia Medical Examiner	Phil. Med. Ex.
Transactions of American Medical Association.	Amer. Trans.

GENERAL SURGICAL PATHOLOGY AND PRACTICE.

REPAIR and Reproduction after Injuries, Course of Lectures on, delivered at the Royal College of Surgeons of England. PAGET (James). Med. Gaz., 1849, vol. xliii, pp. 1013 and 1064; vol. xliv, pp. 27, 70, 116, and 133; also Med. Times, 1849, vol. xix, pp. 654, 671; vol. xx. pp. 21, 67, 173, 212. Lecture on. HUMPHRY (G.M.) Prov. M. and. S. Journ., July 25, 1849, p. 393.

HYPERTROPHY, Lectures on. HUMPHRY (G. M.) Prov. M. and S. Journ., 1850, pp. 197, 309, and 337.

——— Congenital, of Toes. BATTERSBY (F.) Dub. Med. P., June 26, 1850, vol. xxiii, p. 403.

ATROPHY, Lectures on. HUMPHRY (G. M.) Prov. M. and S. Journ., 1850, pp. 1, 29, 85, and 141.

SCROFULA, Lectures on. HUMPHRY (G. M.) *Ibid.*, 1849, pp. 561, 617, 673.

INFLAMMATION and its Results, Lectures on. HUMPHRY (G. M.) *Ibid.*, 1849, pp. 32, 57, 85, 113, 141, 197, 225, 281, 309, and 365. Lectures on, delivered in the Theatre of the Royal College of Surgeons of England. PAGET (James). Med. Gaz., 1850, vol. xlv, pp. 965, 1009, 1053.

——— of the Cellular Tissue, on the use of Tartar Emetic in. MILTON (J. L.) Lancet, March 23, 1850, p. 353.

———, Wounds, and Ulcers, Directions for using Nitrate of Silver in the cure of. HIGGINBOTTOM (John). *Ibid.*, Jan. 19, 1850, p. 74.

CERVICAL ABSCESSES, their treatment in reference to Hæmorrhage. HARGRAVE (William). Dub. Quart. J., Aug. 1849, vol. viii, N. S., p. 86.

ULCERS of Lower Extremity, on Treatment of. CHAPMAN (H.) Lancet, Feb. 1849, p. 124.

———, Warty, of Marjolin. SMITH (Robert W.) Dub. Quart. J., May 1850, vol. ix, N. S, p. 257.

GANGRENE, Sphacelus and Mortification, Lectures on. GUTHRIE (G. J.) Lancet, April 6 and May 25, 1850, pp. 401 and 617.

Gangrene following Erysipelas, Injuries, and Operations. Cock (E.) and others. Med. Gaz., April 27, 1849, vol. xliii, p. 735.

———, Cases of dry. Wilmot (Samuel G.) Dub. Quart. J., Feb. 1850, vol. ix, N. S., p. 226. Of Foot: Autopsy. Clark (F. Le Gros.) Lancet, June 15, 1850, p. 720.

Gangrenous Ulceration of Hands, case of, with Clinical Remarks. Solly (S.) *Ibid.*, Jan. 12, 1850, p. 55.

Gangrene Hospital, Lectures on. Guthrie (G. J.) Med. Times, 1849, vol. xix, pp. 210, 301, 580.

Creeping Phagedæna of Face, two cases of. Drew (Joseph). Lancet, Feb. 16, 1850, p. 206.

Tumours, Lectures on. Cooper (B. B.) Med. Gaz., August 31, 1849, vol. xliv, p. 353.

Recurrent Tumours. Syme (J.) Edin. Month. Journ., Feb. 1850, vol. i, 3rd S., p. 194.

Tumour, (Malignant), of Head. O'Ferrall (Dr.) Dub. Quart. J., May 1850, vol. ix, N. S., p. 466. Of Face, Case of Operation on. Fergusson (W.) Lancet, Dec. 22, 1849, p. 679. In the Parotid Region, operated on with success. Macdonnell (Mr.) Dub. Med. P., March 6, 1850, vol. xxiii, p. 150. Medullary Sarcomatous, on Right Hand, Cl. Report of Case of. Whittall (T.) Prov. M. and S. Journ., June 12, 1850, p. 321. Congenital Encysted on Right side of Chest, successfully treated by the Seton. Gross (S. D.) Amer. Journ. of Med. Sc., Jan. 1849, vol. xvii., N. S., p. 22. Encephaloid, in a Child five years old. Gould (Dr.) *Ibid.*, April 1849, p. 343. Malignant, in the Neck of an Infant five months old. Battersby (F.) Dub. Med. P., July 25, 1849, vol. xxii, p. 53. Congenital Carcinomatous, on Left Arm; Extirpation at Eighth week; Reproduction; Death. Cotton (C.) Prov. M. and S. Journ., May 16, 1849, p. 267.

Malignant Disease, on the Propriety of Excision in. Paget (Thomas). Prov. M. and S. Journ., March 20, 1850, p. 150.

Cancer of the Skin, on some cases of. Partridge (R.) Med. Times, May 18, 1850, vol. xxi, p. 365.

Fungus Hæmatodes. Hamilton (John). Dub. Quart. J., Aug. 1849, vol. viii, N. S., p. 98.

Cheloidea, Case of, with large Tumour in Occipital Region. Chalk (W. O.) Lond. Journ. of Med., Feb. 1849, vol. i, p. 211.

Malignant Pustule, or Charbon, Observations on. Von Iffland (A.) Dub. Med. P., April 10, 1850, vol. xxiii, p. 230. From Brit. Amer. Journ.

Lacerated Wounds, Use of Nitrate of Silver in. Higginbottom (John). Lancet, Dec. 22, 1849, p. 661.

Gunshot Wound, Cases of. Loney (John). Dub. Med. P., Nov. 7, 1849, vol. xxii, p. 292. Phil. Med. Ex., Dec. 1849, vol. v, N. S., p. 726. Fergusson (W.) Lancet, Feb. 2, 1850, p. 153. By an air-gun. Syme (James). Edin. Month. Journ., March 1850, vol. i, 3rd S., p. 244. At Shoulder-Joint, successful Amputation under Chloroform. Eve (Paul F.) Amer. Journ. of Med. Sc., Jan. 1849, vol. xvii, N. S., p. 257. From South. Med. and Surg. Journ., Nov. 1848. Of Chest: case. Blanton (A. B.) *Ibid.*, Jan. 1849, vol. xvii, N.S., p. 23. Fox (George). *Ibid.*, p. 45.

Poisoned Wound of Throat: extensive mischief in Pectoral and Deltoid Regions; Recovery. Hancock (H.) Lancet, June 1, 1850, p. 663.

Viper, horned, of Western Africa, bite of. Savage (T. S.) Amer. Journ. of Med. Sc., Jan. 1849. From Proc. of Acad. of Nat. Sc. of Philadelphia, April 11, 1848.

Emphysema, Traumatic, Cl. Lect. on. Adams (John). Med. Gaz., Nov. 2, 1849, vol. xliv, p. 737.

Bed-Sores, Treatment of. Bernard (Dr.) Lond. Journ. of Med., Jan., 1849, vol. i, p. 94.

Burns and Scalds, Treatment of. Warren (John C.) Prov. M. and S. Journ. June 27, 1849, p. 353.

——— Extensive, successfully treated by the Application of Nitrate of Silver. Brown (Thomas). *Ibid.*, Oct. 17, 1849, p. 569.

——— Treatment of Contraction of Fingers after. Gay (John). Lancet, Feb. 9, 1850, p. 184.

Purulent Infection after Surgical Operations, two cases of, in the service of M. Roux. Weir (J. H.) Phil. Med. Ex., Oct. 1849, vol. v, N. S., p. 582. See also Diseases and Injuries of Blood-vessels.

Animal Poisons, advantages of Solutions of Caoutchouc and Gutta Percha as a means of protecting the skin from. Acton (W.) Lond. Journ. of Med., Jan. 1849, vol. i, p. 108.

Local Disease, effects of on Constitution. Humphry (G. M.) Prov. M. and S. Journ., Jan. 24, 1849, p. 29.

DISEASES AND INJURIES OF BLOOD-VESSELS.

Arteritis, Lecture on. Cooper (B. B.) Med. Gaz., May 25, 1849, vol. xliii, p. 881.

Arteries, Wounds of, and Ligature. Cooper (B.) *Ibid.*, 1849, vol. xliii, pp. 974, 1057; vol. xliv, pp. 1 and 89. Guthrie (G. J.) Lancet, vol. i, 1849, pp. 55, 111, 168, 224, 254, 303, and 497; vol. i, 1850, p. 325. Dieffenbach (J. F.) Med. Times, 1849, vol. xx, pp. 308, 339, and 383.

Common Carotid Artery, Case of Scrofulous Ulceration of. Robinson (F.) Med. Gaz., March 1, 1850, vol. xlv, p. 376. Ligature of, for Hæmorrhage from Suicidal Wound of Throat: Recovery. Eves (A.) Lancet, May 26, 1849, p. 556. Ligature of. Hargrave (William). Dub. Quart. J., Aug. 1849, vol. viii, N. S., p. 86. Mettauer (J. P.) Amer. Journ. of Med. Sc., Oct. 1849, vol. xviii, N. S., p. 348.

Subclavian Artery, Ligature of. Hargrave (W.) Dub. Quart. J., Feb. 1849, vol. vii, N. S., p. 53. Ligature of: Anatomical Phenomena in a Case of, four years subsequently to the operation. Ainsworth (F. S.) Amer. Journ. of Med. Sc., Jan. 1850, vol. xix, N. S., p. 83.

Brachial Artery, Ligature of, for Suppuration beneath Palmar Fascia and Hæmorrhage from Incision. Trask (J. D.) Amer. Journ. of Med. Sc., July, 1849, vol. xviii, N. S , p. 95.

Radial Artery, Wound of: Consecutive Hæmorrhage: Ligature of Brachial Artery. Norman (H. B.) Lond. Journ. of Med., August 1849, p. 777; and Med. Gaz., Oct. 5, 1849, vol. xliv, p. 569. Case of Wound. Bird (P. H.) Prov. M. and S. Journ., Sept. 19, 1849, p. 518.

Femoral Artery, Ligature of for secondary Hæmorrhage on 18th day after Amputation above the knee; return of Hæmorrhage; Ligature of external Iliac Artery; Recovery. Bellingham (O'B.) Dub. Med. P., March 28, 1849, vol. xxi, p. 193. Rupture of. Parkman (S.) Amer. Journ. of Med. Sc., April 1849, vol. xvii, N. S., p. 338. Statistics of Mortality following the Operation of Tying. Norris (G. W.) *Ibid.*, Oct. 1849, vol. xviii, N.S., p. 313.

Iliac Artery, Case of Rupture of Right Common. Hicks (J.) Med. Gaz., May 3, 1850, vol. xlv, p. 763.

Internal Iliac Artery. Ligature of, for Traumatic Aneurism of the Glutoid. Bigelow (J. H.) Amer. Journ. of Med. Sc., Jan. 1849, vol. xvii, N. S., p. 29.

External Iliac Artery, cases of Ligature of. Wills (Santiago). Lancet, Feb. 10, 1849, p. 148. Nunn (T. W.) *Ibid.*, May 5, 1849, p. 476. At the Hôtel Dieu, for Wound in Upper Part of the Thigh. *Ibid.*, July 21, 1849, p. 60.

Anterior Tibial Artery, Punctured Wound of: Ligature of Femoral Artery. Massey (Dr.) Med. Times, April 7, 1849, vol. xix, p. 461.

Aneurism, Lectures on. Cooper (B. B.) Med. Gaz., May 25, and June 8, 1849, vol. xliii, pp. 888 and 969. On the Operation for. Dieffenbach (J. F.) Med. Times, Dec. 29, 1849, vol. xx, p. 509; vol. xxi, p. 222. Treatment of by Compression. Tufnell (J.) Dub. Med. P., May 16, 1849, vol. xxi, p. 305. Phil. Med. Ex., Feb. 1849, vol. v, N.S., p. 83. Treatment by imposing weights on the Compresses. Amer. Trans., 1849, vol. ii, p. 228. New Instrument for Treatment of. Carte (Dr.) Dub. Med. P., May 16, 1849, vol. xxi, p. 309. Cases cured by Compression with Dr. Carte's instrument. Hutton (Edward). *Ibid.*, p. 310. Of Carotid Artery, case of: Ligature: Death. Gelston (Dr.) Med. Times, May 5, 1849, vol. xix, p. 532. Of Carotid Artery: Ligature of Primitive Carotid below the Omohyoid Muscle. Fox (George). Amer. Journ., Oct. 1849, vol. xviii, N. S., p. 381. Of Left Subclavian Artery: Ligature: Remarkable Deviation of the Vessel, and change in its relations. Warren (J. Mason). Amer. Journ. of Med. Sc., Jan. 1849, vol. xvii, N. S., p. 13. Abs. in Lond. Journ. of Med., April 1849, vol. i, p. 381. Of Axillary Artery: Cases. Hancock (Henry). Lond. Journ. of Med., March 1849, vol. i, p. 296; and Lancet, July 7, 1849, p. 7. (Ligature of Subclavian.) Syme (James). Edin. Month. Journ., March 1850, vol. i, 3rd S., p. 240. Clark (F. Le Gros). Med. Gaz., July 13, 1849, vol. xliv, p. 61. Crompton (D. W.) *Ibid.*, Oct. 19, 1849, vol. xliv, p. 665. Inguinal, Case of: Suicide by Wound of the Tumour. Miller (James). Edin. Month. Journ., April 1850, vol. i, 3rd S., p. 318. In Groin: Compression: Failure: Ligature of External Iliac Artery: Cure. Fox (George). Amer. Journ. of Med. Sc., Oct. 1849, vol. xviii, N.S., p. 377. Of Femoral Artery: Cases. Tufnell (J.) Dub. Med. P., March 7, 1849, vol. xxi, p. 145. Of Popliteal Artery: Case in which the Femoral Artery was tied after the Sac had burst. Wright (J. D.) Med.-Chir. Trans., 1849, vol. xxxii, p. 167. Abs. in Lond. Journ. of Med., July 1849, vol. i, p. 689. Cases cured by Compression. Thompson (Henry). Med. Times, Dec. 22, 1849, vol. xx, p. 484. Banon (Mr.) Dub. Med. P., Nov. 28, 1849, vol. xxii, p. 338. Case: Ligature of Femoral Artery, and subsequently of External Iliac. Adams (J.) Lancet, vol. i, 1850, pp. 366, 453, and 659. Case communicating with Knee-joint: Amputation of Thigh. Adams (Mr.) Dub. Med. P., Feb. 21, 1849, vol. xxi, 1849, p. 114.

——— Traumatic, case of, successfully treated by Compression. Crampton (Sir P.) *Ibid.*, Sept. 12, 1849, vol. xxii, p. 161.

——— Spurious, Cl. Lecture on. Adams (John). Med. Gaz., August 10, 1849, vol. xliv, p. 221. Treatment: Case of the late Mr. J. G. Andrews. Adams (John). *Ibid.*, Sept. 14, 1849, vol. xliv, p. 470.

——— by Anastomosis, Lecture on. Cooper (B. B.) Med. Gaz., May 25, 1849, vol. xliii, p. 884.

Aneurismal Varix in a Stump. Cadge (William). Lond. Journ. of Med., Feb. 1850, vol. ii, p. 126.

Veins, Lectures on Diseases of. Cooper (B. B.) Med. Gaz., August 3 and 17, 1849, vol. xliv, pp. 177 and 265. Inflammation of, Causes, Consequences, and Treatment of: with Experiments and Cases illustrating the effects of the mixture of Pus and Foreign Matters with the Blood. Lee (Henry). Lond. Journ. of Med., March and July 1850, vol. ii, pp. 218 and 613. Diagnostic Signs of Inflammation of, Report of Committee of New York Pathological Society. Prov. M. and S. Journ., Oct. 3, 1849, p. 553. Cases of Inflammation of, after Injuries and Operations. Page (W. B.) *Ibid.*, Jan. 10, 1849, p. 16. Cases of Purulent Inflammation of, following Injuries and Operations. Coveney (Mr.) Med. Gaz., Jan. 19, 1849, vol. xliii, p. 125. External Jugular and Veins of Arm, Inflammation of: Albuminuria. Eade (P.) Prov. M. and S. Journ., Jan. 9., 1850, p. 17. Of Neck, Upper Limb, and Thorax; Inflammation and Fibrinous Obstruction. Russell (Dr.) *Ibid.*, Sept. 19, 1849, p. 524.

Veins, Varicose, with Phlebolites, case of. Syme (James). Edin. Month. Journ., April 1849, vol. iii, N. S., p. 699.

——— On the entrance of Air into. Cooper (B. B.) Med. Gaz., August 17, 1849, vol. xliv, p. 265. Lane (G. F.) *Ibid.*, May 31, 1850, vol. xlv, p. 926.

Nævi Materni, Observations on the Treatment of; with Cases of Removal of these Growths from different parts of the Face without Deformity. Curling (T. B.) Med. Gaz., Jan. 25, 1850, vol. xlv, p. 133. With Dilatations of the Vessels of the Integument. Coote (Holmes). *Ibid*,. March 8, 1850, vol. xlv, p. 412.

Nævus in an infant, removed by the External Application of Solution of Iodine, Bulteel (J. C.) *Ibid.*, August 24, 1849, vol. xliv, p. 319.

DISEASES AND INJURIES OF BONES.

Diseases of Bone, Site of Morbid Action in. Goodsir (John). Edin. Month. Journ., Feb. 1850, vol. i, 3rd S., p. 99. Abs. in Lond. Journ. of Med., March 1850, vol. ii, p. 277.

Exostosis of Femur, case of Operation for. Clark (F. Le Gros). Lancet, Dec. 15, 1849, p. 641.

Necrosis of Lower Jaw in Lucifer-match Makers, cases of. Med. Times, Nov. 17, 1849, vol. xx, p. 394. Taylor (H.) Lancet, Nov. 10, 1849, p. 498. Abs. in Lond. Journ. of Med., Dec. 1849, vol. i, p. 1153. Simon (John). Lancet, Jan. 12, 1850, p. 41. Of Femur after Amputation at Lower Third of Thigh: Amputation at Hip Joint. Syme (James). Edin. Month. Journ. April 1849, vol. iii, N. S., p. 699.

Exfoliation of Anterior Arch of Atlas. Wade (Robert). Med.-Chir. Trans. 1849, vol. xxxii, p. 65. Abs. in Lond. Journ. of Med., April 1849, vol. i, p. 395.

Caries, Morbid Specimens of, from excised Head of Femur. Smith (H.) Lond. Journ. of Med., March 1850, vol. ii, p. 296. Walton (H.) *Ibid.*, p. 301. Caries of Anatomical Neck of Humerus, and of Elbow-joint: Amputation at Shoulder Joint: Cure. Newham (T.) Med. Gaz., August 3, 1849, vol. xliv, p. 212.

Disease of Antrum, case of, produced by a Fall. Levison (J. L.) Lancet, Jan. 6, 1849, p. 13.

Osteo-Cartilaginous Tumour (Osteo-chondrophyte), removed from the Femur, Clinical Lecture on. Quain (R.) Med. Times, Oct. 13, 1849, vol. xx, p. 299.

Osseous Tumours growing from Walls of Meatus Auditorius Externus. Toynbee (J.) Prov. M. and S. Journ., Oct. 3, 1849, p. 533. Of Cervical Vertebræ, producing Obstruction of Pharynx. Hamilton (John). Dub. Med. P., May 1, 1850, vol. xxiii, p. 277.

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[1] See also the Section on DISEASES AND INJURIES OF BONES.

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CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

ANATOMY AND PHYSIOLOGY.

ON THE STRUCTURE OF THE MEMBRANA TYMPANI IN THE HUMAN EAR.

Mr. Joseph Toynbee, in a paper, read at the Royal Society on the 20th June, describes the Membrana Tympani as consisting of the following layers, quite distinct from each other, both as regards their structure and functions.

1. Epidermis.
2. The proper fibrous layer, composed of
   a. The lamina of radiating fibres.
   b. The lamina of circular fibres.
3. Mucous Membrane.

One of the principal objects of the paper is to describe the structure and functions of the fibrous laminæ. Since the time of Sir Everard Home, who pronounced the layer of radiating fibres to be muscular, anatomists have differed in their views of the nature of the fibrous element of the Membrana Tympani. The lamina of radiating fibres, the outer surface of which is covered by the epidermis, is continuous with the periosteum of the external meatus. With the exception of the uppermost fibres, which, on account of their being somewhat flaccid, have been considered as a separate tissue, under the name of "membrana flaccida", the radiate layer is composed of fibres which extend from the circular cartilaginous ring to the malleus, and they interlace in their course. These fibres are from the 4000th to the 5000th parts of an inch in breadth.

The lamina of circular fibres consists of fibres, which are firm and strong towards the circumference, but very attenuated towards the centre. These fibres are so attached and arranged, as to form a layer of membrane which, in a quiescent state, is saucer-shaped. The fibres composing the circular are smaller than those of the radiate lamina, being from the 6000th to the 10000th part of an inch in breadth.

The facts that appear to be adverse to the idea of the fibres of either layer being muscular are:—

1. The absence of distinct nuclei in the fibres.
2. Their great denseness and hardness.

The four laminæ forming the Membrana Tympani are continuous with the other structures, of which they appear to be mere modifications, and not one is proper to the organ.

The tensor tympani ligament, which had not been previously noticed by anatomists, is particularly described by Mr. Toynbee in the paper read before the Royal Society. It is attached externally to the malleus, close to the insertion of the tensor tympani muscle, and internally to the cochleariform process.

The latter part of the paper is occupied by observations on the functions of the fibrous laminæ, and of the tensor ligament of the Membrana Tympani; and it is shown that by these two antagonistic forces, the one tending to draw the Membrana Tympani outwards, the other inwards, this organ is maintained in a state of moderate tension, and is always in a condition to receive ordinary sonorous undulations.

PRACTICE OF MEDICINE AND PATHOLOGY.

DR. BEGBIE ON ERYTHEMA NODOSUM, AND ITS CONNEXION WITH THE RHEUMATIC DIATHESIS.

It is wisely remarked by Dr. Gooch, in his admirable essay "On some Symptoms in Children erroneously attributed to Congestion of the Brain", that "in observing disease, two sets of symptoms may be noticed, which are mixed together in the case, but which require to be discriminated to form a correct opinion of it. The one consists of the striking symptoms which form what may be called the physiognomy of the disease; the other consists of those symptoms which indicate the morbid state of organisation, on which the disease depends. The former only are noticed by the common observer; but the latter are the most important, and the skilful physician takes them for his guides in the treatment." "He notices not only where the hour hand of nature's clock points, but also the run of its minute and second hands."[1]

These judicious reflections apply with marked propriety to many diseases of the skin, and perhaps to none more than to that singular affection, a short notice of which I now offer to the Society.

The variety of *Erythema*, to which the term *nodosum* has been applied by systematic writers, is characterized by red elevated patches, of an oval form, varying in size from an inch to an inch and a half in length, by half an inch or more in breadth, their long diameter being uniformly parallel to the axis of the limb on which the eruption appears; and this part is generally the anterior of the legs, or shin as it is called, over which, I have observed that the patches are distributed with symmetrical regularity; occasionally, also, but more rarely, they appear on the forearms. I have never seen them on any other part of the body. The affection occurs most commonly in young women; but it is not limited to them, as some authors suppose, but is observed in young men, and in children of both sexes. The eruption is preceded and accompanied by more or less febrile disturbance, by moist furred tongue, deranged bowels, and scanty high-coloured urine; often by pains in the joints and muscles, and always, when severe, by feelings of depression and great disorder. The patches continue for some days to rise above the level of the surrounding skin, becoming more elevated towards the centre, and forming painful bumps or protuberances, which appear, when pressed on by the finger, to offer a fluctuation, and promise a suppuration, which never, however, takes place. With the resolution, the red colour fades, and is succeeded by a bluish or dusky hue, resembling somewhat the appearance of a bruise; the tumefactions soften and disappear, the general indisposition subsides, and the case usually runs its course in ten or fifteen days. In some instances, however, the protuberances have continued hard and painful for a longer time; and the blue discolorations have lasted several weeks. The disease is apt to recur, and its premature retrocession, or natural decline, have been noticed as the period of the invasion of serious internal disease.

Such is a general description (as given by authors, and verified by observation) of a malady, which by many is considered more curious and rare than interesting and instructive; to whose history little or no importance has been attached by most of the recognized authorities on cutaneous diseases; whose associations with marked disordered function and morbid action have been nearly overlooked, and a knowledge of whose real character is only beginning to be developed, by the steady advance of an enlightened humoral pathology.

In illustration of the form in which the disease occurs in practice, I offer a passing notice of two cases, the last which have come under my observation.

[1] Gooch's Account of some of the most Important Diseases of Females. 2nd Edit, p. 344.

Case I. This was a boy, aged 13, said to belong to a healthy family, and to be free from any predisposition to disease, who had been living hitherto in the country, and had only lately come to town, to pursue his education at the New Academy. He was tall and strong for his age; but his friends had remarked that, for some time past, his countenance was pallid, and his appearance cachectic, and that he had evinced much disinclination for mental or bodily exertion. I saw him on the second or third day of a febrile attack, and in the early stage of the eruption of the Nodose Erythema; the patches were large and numerous, tender, painful, and hot, distributed over the fore part of the legs, and also over the forearm, with symmetrical regularity, accompanied by headache, languor, and lassitude, and by deep-seated pains in the joints and muscles of the extremities. The pulse was frequent and full, and compressible; the tongue loaded with a creamy fur; the skin hot, soft, and moist; the bowels inactive, and the dejections dark and offensive; the urine scanty and high coloured, and gradually depositing more and more of the lateritious sediment. The disease pursued its course, apparently unmoved, by antiphlogistic treatment; the tongue continued foul, the bowels disordered, and the urine defective and deranged; the febrile state had somewhat subsided, and the bright red discoloration had faded into a bluish or livid tint, when, about the seventh day of the eruption, the sulphate of quina, as recommended by Dr. Watson, was prescribed, and its exhibition appeared to produce a marked impression on the features and progress of the case. The tongue, which had yielded nothing to calomel and jalap, now rapidly divested itself of its thick coating; the bowels assumed a more healthy action, and the evacuations a more natural appearance; the urine became copious and clear; the protuberances of the eruption softened and disappeared, the bruised marks vanished, and after a week of convalescence, the patient returned to his books and his play.

We have, in this case, a well-marked instance of the Erythema Nodosum in a boy of 13, previously healthy, but manifesting before its occurrence the characteristic signs of a peculiar diathesis, as exhibited in the pallid and cachectic look, the defective excretions, and the deep-seated pains in the limbs and joints. We remark, also, the beneficial effects of quina in the treatment, as corresponding with the experience of Dr. Watson in this disease.

Case II. The other case, to which I shall at present allude, occurred in the person of a domestic servant, a young woman of 20 years of age, of pallid complexion and delicate appearance, and subject to irregular and defective menstruation. When seized with an attack of a febrile character, followed by copious patches of the Nodose Erythema, distributed over the fore part of the legs, and accompanied by the usual tenderness, heat, and pain of the eruption, she had requested the attendance of a respectable practitioner in the neighbourhood of her master's residence, who had prescribed rest, diaphoretics, and laxatives, under which the disease appeared to yield. On the eighth or tenth day of her illness, however, I was requested to see her, in consequence of an attack of acute pain in the lower part of the left side, with impeded breathing, rapid pulse, and increase of fever. The bright blush of Erythema had at this time sunk into the dusky blue; the protuberances had softened and declined; but the general derangement of health, manifested by the pale sickly look, the loaded tongue, and disordered excretions, had not given way; and to these were now added the symptoms of thoracic inflammation,—the general and physical signs of acute pleurisy. By means of moderate bleeding, the employment of calomel and opium, and counter-irritation, these latter were overcome; and, after a short attendance, the patient was dismissed, with instructions to persevere in rules of diet and regimen, and in means calculated to improve digestion and nutrition, and to regulate the menstrual discharge.

We remark, in this case, the occurrence of the Erythema Nodosum in conjunction with amenorrhœa and other signs of cachexia, and the supervention

of acute pleurisy. In connexion with this, we may note a case, related by Mr. Wilson, of a young woman, aged 22, who enjoyed good health until nine months before, when she obtained service in London as housemaid. From that period she suffered constant illness; sometimes her bowels were constipated, sometimes she had nausea, at other times cough; menstruation was disturbed, becoming scanty and light coloured; she had leucorrhœa, and copious deposits in her urine, with difficulty in passing it. Associated with these symptoms, she had a constant feeling of languor, loss of appetite, and indisposition to make any exertion While in this state, she was seized with a dry hard cough, accompanied with headache, and the usual train of febrile symptoms, and a copious eruption of Erythema Tuberosum[1] made its appearance on the forearm, knees, and legs. The majority of the spots were of the size of a shilling piece, they were distributed irregularly over the skin, and were very tender to the touch. On their first appearance they were vividly red, but soon became purplish and yellowish, and by the third or fourth day they were on the decline. This patient recovered at the end of three weeks.[2] In this case we remark also the evidences of a cachectic constitution accompanied by defective menstruation, and other symptoms, such as are frequently observed in females resorting to large towns, and indulging in modes of living contrary to their previous habits in the country.

Remarks. Keeping in mind the leading features of these cases, let us turn to the writings of some recent authors, with the view of discovering whether any uniformity of observation, or correspondence in views, in regard to the nature of this affection, are found to prevail.

Mr. Plumbe informs us that a high degree of derangement of the secretions, and disordered state of those organs in which the process of chylification is carried on, has been noticed constantly when the disease has come under his observation.[3]

Dr. Joy says he has known it to return frequently in the same individual, attended with considerable œdema, and often terminating in desquamation, succeeded by severe pains in the limbs, which demanded the employment of pediluvia, bandages, etc.[4]

Dr. Todd says, "I am not aware that any cutaneous disease occurs in connexion with this (rheumatic) diathesis;" but subsequently he notices that an eruption, resembling Erythema Nodosum, and occurring chiefly or exclusively on the lower limbs, is occasionally witnessed in rheumatic fever.[5]

Rayer has seen the skin affection in connexion with acute rheumatism.[6]

Dr. Watson connects it with disturbance of the menstrual functions, and has seen it occur in connexion with acute rheumatism; and mentions, that a patient of his in the hospital was attacked with the affection of the joints immediately on the cessation of the Erythema Nodosum; and that, in another, this order was reversed.[7]

Dr. Copland notices, that it is sometimes connected with the approach of the catamenia; and that its premature disappearance is sometimes followed by dangerous internal disease.

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[1] "I consider Erythema Papulatum, Tuberosum, and Nodosum" (says Mr. Wilson) "so closely allied to each other, that were it not for the fear of creating confusion, I should include them under the same name. The two former are commonly associated in the same patient, and I have more than once seen erythema papulatum on the face and hands, while Erythema Nodosum existed on the legs." *Wilson on Diseases of the Skin*, p. 144.

[2] Wilson on Diseases of the Skin. 2nd. Edit., p. 169.

[3] Plumbe on Diseases of the Skin. 4th Edit., p. 503.

[4] Cyclopædia of Practical Medicine. Art. Erythema. Vol. ii, p. 120.

[5] Todd on Gout and Rheumatic Fever, pp. 110 and 123.

[6] Rayer, Traité des Malad. de la Peau. Tom. i, p. 123.

[7] Lectures on the Practice of Physic. Vol. ii, p. 836.

Mr. Dendy saw pneumonia suddenly supervene on its retrocession.[1]

Mr. Wilson mentions that the Erythema Papulatum is usually associated with irritation of the gastro-pulmonary mucous membrane, and sometimes with rheumatism; the Erythema Tuberosum with disordered menstrual function; and that the Erythema Nodosum (all nearly allied) is observed also in connexion with rheumatism.[2]

Willan, Bateman, Thomson, and Biett, are nearly silent on the subject of the complications of Erythema Nodsum; and little can be gathered from writers of an early date,[3] but enough has been culled of available materials, to demonstrate the connexion of this form of Erythema with a marked diathesis; and opportunity sufficient is afforded for a reasonable conjecture, that this is the rheumatic constitution, and that the skin affection is symptomatic of the blood disease.

These conclusions may fairly be arrived at, for the following reasons:—

1st. The skin affection is most prevalent in, if not confined to, the young, and those under thirty—the chief subjects of the rheumatic diathesis and rheumatic fever.

2dly. It occurs very frequently in females suffering from menstrual derangement, confirming the views of Drs. Todd, Rigby, and Locock, as to the intimate connexion of disorder of the uterus with rheumatic affections.

3dly. It occurs in connexion with disorder of the general health, characterized by pallor, cachexia, and defective excretion; and subsequently developed in febrile excitement, pains in the joints and muscles, and the copious deposition of lithates in the urine—a state of matters analogous to what takes place in rheumatism.

4thly. It is associated frequently with rheumatic fever,—co-existing or alternating with it.

5thly. It is often complicated with those internal disorders with which rheumatism is allied, particularly with pleurisy and pneumonia. I have not hitherto noticed it in connexion with cardiac disease.

Lastly. Erythema Nodosum yields to a plan of treatment (I mean the use of bark[4]) which was long extensively and successfully employed in the treatment of rheumatism, and still has its advocates among the best informed physicians of the day.[5]

But the question will, no doubt, occur,—Of what value is the knowledge

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[1] Dictionary of Practical Medicine. Art. Erythema.

[2] Wilson on Diseases of the Skin, p. 162-4.

[3] In that curious store-house of medical facts, furnished by Dr. Parry, under the head of "Relation of Diseases by Conversion", it is recorded that rheumatism often alternates with cutaneous eruptions; and in speaking of this relation, after giving many examples of a similar kind, he says, "In all these instances, which have been derived solely from my own observation, and to which many others might be added from medical writings, the several forms of disorder appear to be vicarious affections, consisting of different modifications of one common action, directed from unknown and spontaneous causes to different parts." *Elements of Pathology*, p. 392.

[4] "I once had a housemaid (says Dr. Watson) in whom the disorder (Erythema Nodosum) appeared, and was attended with unusually high fever and much indisposition. I treated her, therefore, antiphlogistically; *i. e.*, I kept her on low diet and gave purgatives; but the disease went on. Fresh knots came out as the old ones faded. At length, I do not remember why, I prescribed some quina for her, and the improvement was immediate and very striking. She relapsed, however, once or twice, upon leaving off the bark, but by persisting subsequently in its use for some days after she appeared to be well, a permanent cure was effected. Since that time—now twelve or fourteen years ago—I have seen a good many examples of Erythema Nodosum, and I have treated them all alike,—viz. first with an aperient and then with the sulphate of quina, and they have all rapidly got well." *Lectures on the Practice of Physic*, vol. ii, p. 836.

[5] Copland's Dictionary of Practical Medicine, vol. iii, p. 630.

of this relation existing between the affection of the skin, and the rheumatic diathesis, admitting that the connexion were satisfactorily established? I answer,—Of great practical value. Let it be understood, that the cutaneous disease is generally found associated with evidences of defective assimilation and cachectic condition of the system, such as precede or accompany an attack of rheumatism; that it not unfrequently co-exists or alternates with a paroxysm of that disease; and that, during the course of the erythematous eruption, or on its decline, or by its sudden retrocession, some of those acute affections with which rheumatism is allied, such as pneumonia and pleurisy, are apt to supervene; and where is the practitioner who will not watch with jealous eye the origin, and progress, and termination, of every such case? while, at the same time, from possessing correct views of the pathology of the disease, he will be in a position to treat, not those symptoms which constitute the physiognomy of the case, but that morbid action which is its essence, which is so productive of extensive mischief, and so often followed by disastrous consequences. He will look upon the skin affection as a symptom only of a great constitutional disorder in which many vital organs are apt to suffer, remembering that the disturbance consequent on their serious lesion is often the first circumstance which arrests the attention of the patient or his friends, and will be ready to avail himself of every appliance for the discovery of obscure or insidious disease, and of every means of treatment by which the morbid element may be eliminated from the blood, and the peculiar diathesis to which it has given rise entirely overcome.

It is an important fact, which cannot be too much kept in mind, that all the phenomena which constitute the characteristics of rheumatism may be present in a case, with the exception, at one time, of fever, and, at another, of the affection of the joints, or of both these together; and that all the danger, and all the damage, which a paroxysm of rheumatic fever is capable of producing, may be equally, though much more silently and stealthily, brought about, when the *materies morbi* circulating through the blood has as yet, from unknown causes, failed to induce the febrile action; or, in raising it, to superadd the affection of the joints. It is in this way that we can account for the occurrence (in those of the rheumatic diathesis) of chorea and diseased heart, conjointly or separately, so often met with in young people;[1] and, again, of copious effusion into the sac of the pleura in others, of which I have seen many instances, particularly in boys, who, though somewhat ailing, have been able to continue their attendance at school, and engage in play, till some symptoms of impeded breathing have arrested the attention of friends, when exploration has discovered the lower half of one side of the chest dull, on percussion sound, and exhibiting the other signs of pleuritic effusion;—an effusion which appears to have taken place in a manner somewhat analogous to, or identical with that, which often, in the same character of constitution, rapidly and unexpectedly fills and distends the synovial capsule of the knee-joint.

In all the boys alluded to, the evidences of a cachectic state had been previously noticed, and I believe the same condition is observable in those affected with effusion into the joints. For instance, some days ago, after prescribing for a lady in town, my attention was called to a domestic in the family, who had been complaining for several weeks. She was pallid and sickly; suffered

[1] On the subject of the connexion of rheumatism and chorea, I am happy to acknowledge that, in the views I entertain, and which I laid before the Society ("Monthly Journal" for April 1847), I have been in some measure anticipated by Dr. Todd, of London, [On Gout and Rheumatic Fever, p. 115.] whose notice of the relation I had not seen when that communication was read, and subsequently published. It is gratifying to me to find that I have independently arrived at the same opinions as those held by that able physician, from whose writings I have derived much valuable information, and in whose views of the nature of rheumatism I entirely concur.

from dyspeptic symptoms, from obstinacy of bowels at one time, and, at another, from relaxation; was feeble, and readily fatigued; and felt unable to continue her duties. On examining her urine, it was highly acid, and loaded with urate of ammonia. She had formerly had rheumatic pains. I ventured to predict an attack of this character, and, to ward it off, prescribed a simple and limited, but nutritious diet, with alterative medicine, and full doses of the nitrate and carbonate of potash. I was requested to visit her this evening (April 2, 1850), when I found the synovial capsule of the left knee distended with fluid, and the joint affected with pain and stiffness; symptoms which had all come on in the course of twenty-four hours.

In regard to rheumatic fever existing without any articular affection,[1] a case is passing under my observation while I now write, which powerfully illustrates the fact, and a short notice of which may not be uninteresting to the Society.

On the 16th of January last, during the prevalence of keen frosty weather, which called many of the admirers of the art of skating and curling to the pond, a gentleman of the legal profession, approaching the age of thirty-five, of stout make, and full habit of body, and, by hereditary right, strongly disposed to rheumatism,[2] repaired to Duddingstone to enjoy his favourite amusement. He spent the early part of the day in keenly contested games of curling, in which he was alternately chilled and heated; and left the ice, complaining of an aching pain in his right side, which he at once attributed to the free and unwonted use of his arm, in pursuing his athletic exercise. Before he reached home, however, the pain amounted to a severe stitch; and, towards the hour of dinner, he waited on me for advice. On examination, I considered him labouring under pleurodynia, and dismissed him with instructions to retire early to bed, to apply a large sinapism, and take a full dose of Dover's powder. His pulse at this time was 72, full and soft; his skin was cool and moist; and his tongue somewhat loaded. An aperient draught was also prescribed for the morning. Late in the evening of the same day, however, I was summoned to his bedside, and found him much indisposed; his pulse had risen to 96, it was still full and compressible; his skin was hot and moist; the pain, which was seated in the lower part of the side, and inclining towards the back, was severe, and greatly increased by motion, by full inspiration, or the effort of coughing. The physical signs at this time gave no clear indication of pleurisy; but judging, from general symptoms, that the costal pleura, at least, was affected, I ordered him to be cupped, and added

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[1] Dr. Graves (see *Clinical Lectures*, vol. ii, p. 159) was the first, I believe, to direct the attention of the profession to this interesting point, and, though the correctness of his views has been doubted, and men of large experience have not observed such cases, I am confident that they are by no means uncommon, and that the following extract from the work of the eminent physician referred to, contains truths of great practical value:—"In truth", says he, "in rheumatic fever, the quickness of the pulse, heat of the skin, tendency to profuse sweating, debility, restlessness, and thirst, may all exist without any inflammation of the joints, and may be resolved without such inflammation ever occurring, as I have witnessed in several well-marked cases of individuals liable to rheumatic fever, and who had previously suffered from attacks of fever, with arthritis, in the usual form, and subsequently, on exposure to cold, were seized with symptoms of pyrexia, which, in intensity, duration, and every other particular, were identical with their former fevers, save and except that, from beginning to end, not a single joint was inflamed."

[2] His family experience had been signally painful and disastrous. He had lost his mother in consequence of inflammation attacking the heart, previously damaged by rheumatic carditis; he had also lost a brother and sister, in early life, by carditis, accompanying rheumatic fever; a paternal uncle, by diseased heart; and a cousin (a daughter of this last), by acute pericarditis, unconnected with articular affection, but with all the other evidences of rheumatic fever; and, lastly, he had seen his only remaining brother, from time to time, afflicted with the malady which had been permitted to prove so great a scourge to his family.

to the Dover's powder five grains of calomel, with instructions to repeat the dose early in the morning, before taking the aperient. On the 17th; he was not relieved; the pain was unsubdued, and more extended towards the base of the scapula; the friction sound was audible over a limited space; the pulse was 100, full and soft; the tongue moist, and loaded; the skin bedewed with sour-smelling perspiration; and the urine, small in quantity, depositing a brick-dust sediment. The bowels had been freely moved; the evacuations were dark, and highly offensive. A second abstraction of blood by cupping was prescribed, to be followed by calomel and opium in the usual form, and the free use of nitre in solution, as a drink. On the 18th, there was dulness on percussion over the inferior and lateral portion of the chest, with distant respiratory murmur, and imperfect ægophony; the general symptoms of rheumatic fever continued; but no joint was affected. During the three following days, there was little change in the symptoms; the pain had in a great measure subsided, and the signs of effusion were quite distinct, limited, however, to the lower half of the right side of the chest; the pulse continued to range from 100 to 108; the urine and perspiration, the tongue and bowels, still manifesting the same high degree of rheumatic character. The calomel and opium were continued till slight ptyalism was induced; and large and increasing doses of the carbonate and nitrate of potass, together with colchicum, were prescribed, in order to favour elimination by the kidney. Towards the 25th, ten days from the date of seizure, considerable absorption of the effused fluid had taken place, the kidneys acting vigorously, and the excretion depositing, day after day, large and increasing quantities of the lithate of ammonia. Convalescence advanced; and for some days before the 31st, he was able to leave his bed, and spend some hours on the sofa. On that day, however, by imprudent exposure near an ill-fitted window, he sustained a chill, and all his symptoms quickly revived. The disease now lighted on the opposite side of the chest, and pursued there a course corresponding with that followed on the right. It was rheumatic fever, with inflammation of, and effusion into, the left sac of the pleura. The same practice was renewed; the same results followed; and on the 14th of February, a fortnight from the relapse, and one month from the original seizure, he was again convalescent. On the 18th, while still confined to bed, and exercising the most exemplary care and caution, as regarded the *juvantia et lædentia*, he was seized with acute pain in the præcordial region, followed by anxious hurried breathing, rapid, feeble, and irregular pulse, cold, clammy perspiration, and inability to maintain the recumbent posture. His expression of countenance was singularly distressing, and he indicated by his looks, more than by words, that this second relapse could not fail of a fatal result. I feared the worst in a constitution so strongly rheumatic, and with the morbid element now fixed on the pericardium. The to and fro sound was audible over the præcordial region, and the impulse there was unnatural and extended. Blood was immediately taken from the region of the heart, and calomel and opium given every alternate hour, till salivation should take effect. A second abstraction of blood followed, after six or seven hours: the pulse improved in strength; the pale, anxious, distressed countenance revived; the præcordial pain, and catch in the breathing, subsided; the physical signs gave way, and disappeared; and in three days, the patient seemed rescued from his impending doom. It was only, however, to be subjected to another, but a less severe and threatening trial. On that day, there occurred renewed pain, of a deep-seated kind, in the region of the first pleuritic effusion, which had remained dull on percussion, and free from respiratory murmur, up to this period. To the pain, now succeeded cough, for the first time, followed by bloody expectoration, and some hurry in breathing; but exploration discovered no abnormal signs beyond the limits of the original pleuritic effusion; and, the symptoms not becoming aggravated, the hope was entertained that only a small portion of the lung was implicated in this pneumonic attack.

Those hopes have been realised. The pulmonary symptoms have gradually disappeared; and now, at the close of ten weeks from the date of the original attack, the patient is again, and more than ever, a promising convalescent. He carries about with him, no doubt, a partially adherent pericardium, and a doubling adhering pleura, as well as a partially condensed lung; but his life has been spared; his infirmities, we know, are compatible with existence, even long extended; and his age will, ere long, grant him immunity from future attacks of the malady which has proved so disastrous to his family.

It is worthy of remark, that during this long illness, the manifestations of the rheumatic habit never entirely left the system, nor appeared to yield to treatment, until the close of the tenth week, when they may be said to have declined, and disappeared. The tongue continued thus long foul, the bowels disordered, and the quantity of the lithates and purpurates in the urine was greatly beyond what I ever witnessed in any case of rheumatic fever, however lengthened in duration or severe in character; while the acid sweats annoyed, not only the patient himself, but even the bystanders, by their constancy and the pungency of their odour.

It also deserves notice, that this gentleman, who had hitherto enjoyed uninterrupted health, and suffered no obstruction in the discharge of professional duty, or in the practice of daily exercise, for a long series of years, had been observed, for some weeks before the seizure just described, to be pallid in looks, and somewhat languid in spirit, and indisposed for mental or bodily exertion; and I have ascertained that, during this time, his digestion was imperfect, and his urine constantly loaded with the lateritious deposit—an assemblage of symptoms which is too much overlooked in cases of this class, and which I refer to the more, as it has been attempted to establish a diagnosis between rheumatism and gout, on the ground that the latter frequently presents premonitory symptoms affecting the digestive organs, which is not the case in the former; a statement which I believe to be contrary to fact, and involving the risk of serious evil. The premonitory symptoms of rheumatism may possibly be slight; so slight as to fail in attracting the notice of the ordinary observer; but I apprehend that they will always be discovered, if sought after; for no attack of rheumatism can take place without evidences of previous imperfect digestion and defective assimilation.

This disorder of the digestive and assimilating functions is often, indeed, the only departure from health which the physician is called upon to treat for days—it may be for weeks—before a paroxysm of rheumatic fever occurs. I cannot forget my own want of due attention to this class of symptoms in a case which, not many years ago, proved fatal under my care. The subject of it was a young lady of twenty-one, who had been ailing for some time before I was called to see her. She was then pallid in countenance, and depressed in spirits. She owned no illness beyond a feeling of loss of strength, an occasional aching head, a want of appetite, and unrefreshing sleep. Her tongue was foul, her bowels disordered, and her urine scanty, and greatly loaded. The catamenia were suppressed. These symptoms went on from day to day; no local pain, no febrile movement, threw light upon their real nature, and no family predisposition pointed to their true character. By and by, a degree of fever was lighted up; and then a degree, a slight degree, of redness, pain, and swelling of the right ankle-joint, proclaimed itself, and revealed the latent disorder which lurked within, and which was now developed in great intensity. The fever, however, exceeded far the amount of articular complication; the endocardium by and bye declared its participation in the general derangement by the distinctive *murmur;* and ere long the pericardium also, through the *to and fro* sound. No remedy availed to save life, though suffering was protracted, painfully protracted, for many weeks; when tumultuous palpitation and laborious breathing, and dropsical swelling, closed the scene. No examination of the body was permitted.—[*Edinburgh Monthly Journal*, June 1850.]

CHRONIC HYDROCEPHALUS, ACQUIRED, SANGUINEOUS, AND CONGENITAL; WITH THREE CASES IN WHICH THE HEAD WAS PUNCTURED.

BY DR. FRANCIS BATTERSBY.

Modern French writers have divided Chronic Hydrocephalus into two forms, the congenital and the acquired. The latter is much more rare than the former. Barrier thinks that the greatest number of cases of hydrocephalus which are developed before the closing of the fontanelles, and in which the separation of the sutures takes place early and easily, should be ranged with congenital hydrocephalus. I shall first consider *acquired* Chronic Hydrocephalus, premising, what seems to have been overlooked by Dr. West, that MM. Barrier and Rilliet and Barthez take into consideration only acquired Chronic Hydrocephalus, no children under two years of age being admitted into the Hôpital des Enfans Malades, of which they were *internes*. Barrier[1] says that acquired Chronic Hydrocephalus is rarely essential, idiopathic, and analogous to other essential dropsies; at other times, it is symptomatic of another disease, and in this case the most frequent organic lesion is the presence of one or of many tuberculous masses in different points of the brain. This has escaped the observation of previous writers. One of the most frequent causes of this dropsy, says MM. Rilliet and Barthez,[2] following Barrier, is the development of a tumour in the cranial cavity, most commonly tubercular, but sometimes cancerous or of another kind. They think, then, that Hydrocephalus has most often as its cause compression of the veins of Galen, or of the straight sinus; and they cannot even conceive any other mode for its formation.

Tulpius, Wepfer, Bonetus, Valsalva, and Lieutaud, remarked that acquired Chronic Hydrocephalus is developed most frequently from the age of two years to seven; and it is precisely at that epoch of life, that tubercles of the brain are most common. Certain organic affections of the brain have been long noted as causes of the disease, such as scirrhous and tubercular tumours, encysted collections, and other morbid products in the substance of the cerebellum and other nervous centres. Facts of this kind are related in the *Sepulchretum* of Bonetus, in Morgagni's *Letters*, in the *Historia Anatomica* of Lieutaud, and in the *Anatomie Médicale* of Portal. But it is to be regretted that, in most of these cases, there is no precise indication either of the seat of the tumours, or of their projection above the cerebellum. It is uncertain whether they were, or were not, adherent to the lower surface of the *tentorium cerebelli*, or whether they were prolonged towards the terminations of the veins of Galen in the straight sinus. It is evident, that the compression of the straight sinus, and the entirely mechanical mode of formation of ventricular hydrocephalus, has been completely misunderstood.[3] Lallemand, John Hunter, Dance, and Constant, relate cases in which tumours existed in the cerebellum, together with fluid in the ventricles; but it is not said whether there was or was not a compression of the straight sinus. Tonellé[4] has not completely misunderstood the influence which the obliteration of the sinuses exerts on the serous exhalation of the brain; since, in speaking of pseudo-membranous concretions in them, he puts forward the opinion, that the disorders resulting from their presence are, either a simple stasis of the blood in the veins of the *pia mater*, and of the substance of the brain, or a serous effusion within the ventricles.

Mr. Edward Ford[5] has recorded two cases—one in a child aged 9, the other in a child aged 4 years—of hydrocephalus resulting from a scirrhous mass in the cerebellum and pons Varolii; and although he makes no mention of

[1] Traité des Maladies de l'Enfant, t. ii, p. 588.
[2] Traité des Maladies des Enfans, t. i, p. 808.
[3] Barrier, l. c., p. 593. [4] Gazette Médicale de Paris. 1834. P. 104.
[5] London Medical Journal, 1790, p. 56.

compression of the straight sinus, yet he observes that *hydrocephalus internus* is in many cases not to be considered as a disease *sui generis*, or as the sole cause of the mischief which ensues to the constitution, but that it is often the effect of those diseases which it has been said to produce. Magendie,[1] who attributes hydrocephalus, amongst other causes, to obstruction to the flow of the cerebro-spinal fluid through the ventricles, comes very near the explanation of M. Barrier. He has given different cases, in individuals aged above nine years, of hydrocephalus with compression of the fourth ventricle by a tubercle of the cerebellum ; with compression made by an aqueous tumour upon the aqueduct of Sylvius, the valve of Vieussens, and the fourth ventricle ; and again, with compression upon the mesocephalon and the fourth ventricle, by an exostosis of the basilar portion of the occipital bone. And he moreover alludes to cases of hydrocephalus, with compression of the fourth ventricle by a fibrous tumour in the valve of Vieussens, or by tumours of different kinds in the annular protuberance. Barrier[2] gives three cases of hydrocephalus from compression of the straight sinus, in children aged 3, 4½, and 5 years. The anatomical conditions necessary to this kind of hydrocephalus, are, he says, 1st. That the tuberculous tumour should occupy the middle lobe of the cerebellum ; 2nd. That it should project upwards sufficiently to throw up the *tentorium cerebelli*, and to compress the straight sinus. The quantity of fluid in the brain of those cases of acquired Chronic Hydrocephalus never exceeds eight or ten ounces, and is in general much less.

Many authors have considered Chronic Hydrocephalus as a particular form of meningitis. But the inflammatory character of the disease is too latent, or is effaced too soon for any practical advantage to follow the adoption of this opinion. It may be true in some cases ; but the disease mostly consists certainly in a dropsy analogous to that observed in all the serous membranes, and in the areolar tissue. This is Barrier's opinion, who does not think, like Billard, that Chronic Hydrocephalus succeeds almost constantly to acute meningitis. Rilliet and Barthez[3] have never seen Chronic Hydrocephalus purely inflammatory. They have not even seen acute cerebral diseases, accompanied by serous effusions into the ventricles, pass into the chronic state, and produce augmentation of the size of the head. Copland does not even refer to such a notion. Breschet states, that we have no well authenticated example of internal Chronic Hydrocephalus, which succeeded to acute hydrocephalus, or dropsy of the brain. But Dr. West[4] affirms, that sometimes the lining of the ventricles is roughened and granular, presenting an appearance closely resembling shagreen, and communicating a very perceptible roughness to the finger ; and concludes that these, and other similar alterations of the lining of the ventricles, afford conclusive evidence of the inflammatory origin of most cases of Chronic Internal Hydrocephalus. In four cases, dissected by me, there was no such adventitious membrane, which I think, may be, in the few cases in which it exists, explained by the irritating nature of the fluid collected in the ventricles. The same occurrence is observed in dropsy of the abdomen, speaking of which, Dr. Copland observes, "This fluid, owing to interruption of the depuration function, is often possessed of properties which induce inflammatory irritation in the healthy peritoneum, and which are more likely to have a similar effect when this membrane is punctured or otherwise divided."[5] Spengler and Barruel, having each analysed fluid from hydrocephalic heads, agree in thinking it not to be a product of inflammation, but simply the ordinary cerebro-spinal fluid, enormously increased in quantity.[6]

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[1] Sur le Fluide Cephalorachidien, p. 74. 1843.

[2] L. c. p. 594–603.

[3] L. c. t. i, p. 807.

[4] On the Diseases of Infancy and Childhood, p. 88 ; also Dr. Todd, Cycl. Anatomy, Part xxvii, p. 720.

[5] Dictionary of Medicine, vol. i, p. 632. Portal states (sur l'hydropisie, t. ii, p. xxiv), that the fluid is sometimes "de mauvais goût ou d'une extrême *acreté*."

[6] Medical Gazette, N. S., vol. ii, 1846, p. 627.

Breschet and Legendre[1] attribute to inflammation all affections, the result of hæmorrhage into the cavity of the arachnoid; which effusions, Dr. Todd[2] states, are very rare. Rilliet and Barthez[3] have seen three cases of hæmorrhage, from sanguineous exhalation into the arachnoid, simulating hydrocephalus. The coagulum divides into two portions, one serous, the other solid. This assumes the appearance of a thin false membrane,—elastic, more or less resistent, and simulating occasionally the arachnoid. Sometimes it is really a fibrous membrane. The clots are found over all the circumference of the brain, but most frequently on its convex surface, either anteriorly or posteriorly, or at its sides. Most commonly they adhere to the parietal surface of the arachnoid, more rarely to its visceral surface; but whatever the connexion, their adhesion is slight, and they may be removed by the least traction. Sometimes the fluid is serous, transparent and limpid, more or less yellow, entirely resembling the liquid effused into other serous membranes. Occasionally it is muddy, yellowish-red, and contains bloody particles suspended in it. Less frequently, it preserves its transparency, but has a reddish colour. This is blood mixed with serosity, and consequently more liquid than natural. On other occasions, the liquid is thick, muddy, brown, or chocolate-coloured, and like a sanguineous effusion of an old date. Blood, pure and liquid, is seldom observed. Rilliet and Barthez once estimated the fluid on both sides to amount to a *litre*, or nearly two pints. Enormous quantities like this are only found in very young children, whose heads are unossified. When the sanguineous effusion is so great, it forms a pure hydrocephalus, presenting all the characters of Chronic Hydrocephalus. This effusion presents no well-marked characteristic signs, which can separate it from serous ventricular effusion. Legendre, however, states that the first stage is marked by symptoms of cerebral fever or acute hydrocephalus, the second by those of Chronic Hydrocephalus, but that the first stage is not always followed by the second. He observed seven cases, between the ages of two and three years. The age appears to Rilliet and Barthez to establish a difference between acquired Chronic Hydrocephalus, tubercular, or other, and sanguineous Chronic Hydrocephalus. They have never seen an infant of two years of age, or less, die of hydrocephalus in consequence of cerebral tubercles. Always at this age, sanguineous effusion has been its cause.

The elder Monro[4] used to employ many arguments against puncture in cases of hydrocephalus, except when water is accumulated between the membranes of the brain or in the arachnoid, from a conviction of the fatal consequences of this operation. Neither are Barrier, Rilliet and Barthez, or Legendre, advocates for the operation in acquired Chronic Hydrocephalus, the probable result of a cerebral tumour, or of a profound alteration of the brain; and I do not think it likely to succeed in cases of acute hydrocephalus, attended with convulsions and strabismus.[5] Rilliet and Barthez are, on the contrary, of opinion that it could only be advantageous in cases of arachnoid hæmorrhage. The nature of the liquid to which the instrument would give issue, and the depth to which it would be necessary to penetrate to reach the effusion, would point out almost certainly the seat of the disease. It is very evident that if the puncture gave issue to blood, to sanguineous, or even albuminous serosity, this would at once determine the form of the hydrocephalus. The diagnosis does not appear to Rilliet and Barthez less positive, if the instrument gave issue to liquid after having passed through the *dura mater* alone. The importance of diagnosis in like cases is such, that they do not hesitate to propose the employment of this method.[6]

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[1] Révue Médicale, Dec. 1842.
[2] Cyclop. Anatomy, Part xxv, p. 644, and Part xxvii, p. 717.
[3] L. c, t. ii, p. 32.
[4] Monro on Hydrocephalus, p. 95.
[5] Dublin Medical Press, February 20, 1850, p. 116.
[6] L. c, p. 47.

Such advice, from such men as Rilliet and Barthez, I felt anxious to test by experience; the more so, as Legendre intimates that the favourable termination of certain cases of punctured hydrocephalus depended, most probably, on their being of this form. The following case soon gave me an opportunity of tapping the head.

Case I. Congenital Chronic Hydrocephalus, punctured eight times. Malformation of the Brain. Eliza Deering, aged nine weeks, was admitted to the Institution for Diseases of Children, 31st January, 1849. Her mother stated, that her head had been getting large since she was a fortnight old. It was nineteen inches and three-quarters in circumference, and twelve inches from the tip of one ear to that of the other. It was soft from the root of the nose to the occiput; and in the centre there was a hand's breadth between the frontal and parietal bones. Her eyes were straight; the pupils were half sunk below the lower lids, the whites of the eyes being nearly all that was visible of them; vision was perfect. She fed well. Her person and limbs were plump and well nourished. Her countenance was plump and fresh coloured. She had no complaint except her large head; was constantly dozing; bowels generally confined. Her parents were young and healthy. I strapped the head with adhesive plaster, and applied over it a double-headed roller. *February* 27. Head twenty-one inches by fourteen and a half. I strapped the head again; it was very soft; she cried much while it was being done. The strapping had diminished the horizontal magnitude of the head, which was not so long from before backwards. It was larger superiorly, the diameter between the ears being much more than formerly. *March* 12. She seemed in good health, and was getting fat. The head was globular, and increasing rapidly in size, with a feeling of fluctuation. The roof of each orbit was thrust out perpendicularly, and the eyes were so sunken, that it was only by an effort she could look at objects above her. The eyes were lower, and the portion of the orbits next the nose crepitated on pressure with the finger; bowels confined. 20*th*. The mother consenting to the operation, I this day, assisted by Drs. Churchill and Colles, introduced an exploratory needle in the situation of the anterior fontanelle, about half an inch to the left of the longitudinal sinus. Fluid at once came away; and, withdrawing the needle, I passed in a very fine trochar, and withdrew seventeen ounces of clear serum, slightly tinged with blood, which did not come from the scalp. The fluid appeared to be directly under the *dura mater*. The scalp was quite soft and baggy, after the fluid was withdrawn. During the operation, Mr. Colles held the head compressed between his hands. The child cried strenuously, but did not appear to suffer much. I reapplied the roller. 21*st*. She vomited in half an hour after the operation, and was cross in the evening. Eyes raised well. She slept last night well as usual, but was easily frightened, and started out of sleep. 22*nd*. Was very pale; grasped firmly anything placed in her hands. The arms constantly started, and she cried often; was very hot and restless; pulse too rapid to be counted. 23*rd*. Slept none till three o'clock A.M; had not started since, but seemed restless; pulse 160; skin hot; could not suck, but swallowed fluid well; the jaws were drawn together, and firmly closed; eyes sunk, and in constant motion. 24*th*. She slept some last night; this morning sucked a little by the lips, her jaws being closed; audible hemming; no sensibility; quivering of hands, which were occasionally strongly clenched. 25*th*. Took the breast in her lips last evening, and twice to-day; drank also six cups of wine whey and of milk: was rather cold. She had sudden fits of clenching of the hands, with rigidity of the arms, and hemming. Appeared asleep, and would not swallow anything. 26*th*. Shortly after my visit yesterday, she took the breast in her gums, sucked well, and continued to do so. Slept well last night; is not hot now; cried this morning for the first time since the operation; was then disposed to sleep; looked pallid; protruded the tongue; the thumbs and hands flexed. 27*th*. Very easy

to-day, and sucked better than ever; now twisting the mouth; hands supple; thumbs turned in.

This was the only inflammatory attack she had in consequence of the operations, which I performed eight times between March and August. I withdrew eighty-nine ounces of fluid, which was each time of a paler colour, until at last it was quite limpid and colourless.

On the 29th of March, she got an acute attack of muguet, which continued ten days. The thumbs were then natural and extended, the index fingers alone being flexed; these in their turn soon lost their flexure, and continued natural to the end. The head was ossifying rapidly at the back, where the new bone could be felt to crepitate under the finger. During the entire progress of the case, I kept the head bandaged; but so readily and quickly did the bandage fall off, that, on the 9th of July, I smeared the folds of the bandage with starch, which kept it immovably fixed its place.

July 24th. Head twenty-three by sixteen inches. The irides were below the lower lids; there was vascularity of the eyes, with watery and mucous discharge. She lay sleeping the entire day; for a few days had been vomiting constantly. Was nearly motionless, and cold, no matter how much clothes covered her. The bandage had never moved; and the back part of the head, where uncovered by it, was highly œdematous and bluish. Slept sometimes with the eyes open. I loosened the bandage, and re-applied it over the entire head; but the œdema continued till her death, which occurred on the 4th of August, two days after the last tapping. I saw her on the 3rd, very well, smiling and good humoured; and she unexpectedly died at eight o'clock next morning. At the time of her death, she was aged nine months, one week, and four days; death taking place four months and fifteen days after the first, and two days after the last puncture of the head. After the second, and all the subsequent punctures, the head rapidly regained its original size, so as on the day succeeding to be as large as before the operation: she never had the least power of supporting her head.[1]

Post-mortem Examination twelve hours after death, by Dr. Churchill and myself. The œdema of the back of the head had disappeared. It seemed smaller than during life. The scalp was bloody posteriorly. On dividing the dura mater, the brain at once appeared. It was quite smooth on its upper surface. There was no median fossa; at its inferior surface were some convolutions.

More than two quarts of clear serum were contained in one large central cavity, all traces of separation between the lateral ventricles being annihilated by the absence of the fornix and septum lucidum and the falx; the corpus callosum and choroid plexus were also absent. The posterior cornua of the lateral ventricles were also absorbed in this central cavity, on looking down into which, through the fluid, from an opening in the upper part of the brain, we could observe, in the situation of the left optic thalamus, two small very thin sacs, formed of the medullary portion of the brain, raised by fluid underneath. The third ventricle was very shallow; there was no soft commissure nor Pineal gland. An ill-formed narrow band of nervous structure stretched from the left side of this large cavity obliquely forward to join the right corpus striatum. The corpora striata and optic thalami were flattened. There was no lymph, nor any evidence of inflammatory effusion, on the inner surface of this cavity, which, formed of the white structure of the brain, was lined by a dense serous membrane, under which were observed small red vessels. The brain at its upper surface was not more than a few

[1] This patient, who survived the operation so long, proves the error of Petit, who expresses his sorrow that all patients who underwent this operation died; for if a large quantity of water were drawn off, they expired in four or five hours after the discharge; if less be drawn off, they died more slowly, but never survived the operation above forty hours. *Van Swieten's Commentaries,* vol. xii, p. 248.

lines in thickness. The cerebellum was very soft. The nerves were all perfect. The points at which the trochar entered the brain were completely closed; they could not be discovered on the outer surface of the brain, but were marked at its inside by very small dark cicatrices.

Dr. Watson states,[1] that the fluid of hydrocephalus does not coagulate; and the analysis of Bostock, Marcet, Barruel, Berzelius, and John shew that this fluid is of the lowest specific gravity, and contains the smallest quantity of albumen and of saline ingredients, of all the dropsical fluids; according to Dr. Marcet,[2] its specific gravity is 1006·7. The changes in the specific gravity of the fluid, extracted at each puncture, sufficiently indicate the alteration in the amount of albumen. The examination of the fluid, after each operation, was kindly undertaken by Mr. Moore:

1st	Puncture,	March 20th,	amount withdrawn,	17 oz.	sp. gr.	1007
2nd	...	May 10th	... ...	6½	...	1014
3rd	...	... 24th	... ...	9	...	1012
4th	...	June 4th	... ...	11	...	1010
5th	...	... 21st	... ...	13	...	1008·5
6th	...	July 5th	... ...	11½	...	1006·5
7th	...	... 23rd	... ...	10	...	1007
8th	...	August 3rd	... ...	11	...	1006·5

Albumen was always present, but in very variable proportions; the quantity was sometimes very great, as at the second and third punctures, when it nearly equalled that in the fluid of ascites, forming, when heated, a solid mass like coagulated white of egg. It sometimes amounted to a mere trace, and the specific gravity was influenced by the amount of it present, so that the former became a measure of the quantity present. Nearly the same salts were found in all the specimens, and generally in about the same proportions, viz., a large amount of the chlorides of potassium and sodium, small quantities of the sulphate of soda and phosphate of lime, and a little free alkali, which always gave the fluid an alkaline re-action. On one occasion, Mr. Moore observed, on examining the fluid with the microscope, a crystal of oxalate of lime; and among the occasional matters observed by the same instrument, were bodies resembling mucous granules, flakes of coagulated albumen, blood-corpuscles, a few fat vesicles, vibriones in the warm month of July, and after the fluid had rested twenty-fours hours, and scales resembling epithelium.

The next case was more speedily fatal, from the effects of inflammation.

Case II. Congenital Chronic Hydrocephalus. Puncture of the Head. Brain Malformed. John Webb, aged nine months, was admitted under my care on the 26th March, 1849. The mother had had but one other child, which died of convulsions when a few weeks old. The father was rather silly. This child had been born prematurely, and was very small at birth. He had slight divergent strabismus since his first month, but his head had been of abnormal size until he was two months old, when he had some fits. He had not vision since. The eyes were greatly depressed, and the eyelids covered with mucus; the pupils were nearly concealed by the lower lids. Above the eyes, the orbital plate of the frontal bone, pressed downwards and forwards, crepitated under the finger. The head was of enormous size, twenty-four inches by fourteen inches and three quarters; there were very large blue veins in the scalp; one in particular on each side in a wide and deep groove in the skull, on each side, down the side of the head to the front of the ears. His head was enlarging daily; he could not support it. His flesh was partly wasted, and very flabby. He at night felt fits of pain, from which he cried and roared. Since his seventh month, he had got two lower incisor teeth. Pulse 72, very weak, small, and irregular; stools natural; he passed much water; recognized no one, but used sometimes formerly to laugh; eat nothing. The mother was very delicate, with very little milk. 31*st*. Pulse 86. Did not

[1] Library of Medicine, vol. v, p. 141.

[2] Copland. l. c, p. 606.

now sleep overmuch, as he used; he often vomited his food; (he had been weaned since last report;) drank and eat much; yawned repeatedly; head tense. I this day, in presence of Dr. Churchill, introduced the trochar, as in the preceding case, but without using the exploratory needle. The point of the trochar had scarcely entered, when a clear fluid began to flow, of which I removed nine ounces. The child got pale and vomited in a quarter of an hour. I closed the head in a double-headed roller. *April 1st.* He slept only a couple of hours last night; mouth hot; lips dry; very thirsty. Pulse 120. Head hot; skin cool; cried lustily; saliva ran from the mouth; bowels free; no stiffening. *4th.* Pulse not to be felt; legs and arms straightened; thumbs and fingers flexed. No unnatural heat of body or of head. Could not open his mouth, the jaws being firmly closed; eyes half open, and glassy; breathed naturally. Left pupil dilated; he took some drink at 10 o'clock last night. *5th.* Had been perfectly inert, only moving his head from one side to the other. Breathed easily this morning, but latterly with a catch. Heat of skin rather below natural. The head appeared much smaller than before the operation. Hands clenched, arms and legs rigidly extended. At 12 o'clock, I directed him to get a continuance of wine whey and weak chicken's neck tea; but at 6 P.M. I found he had had nothing since I saw him in the morning. He was then breathing naturally, but was entirely cold. I had some wine-whey made, of which he swallowed some; but soon afterwards breathing ceased by degrees, and he died in my presence, without the possibility of fixing on the period.

Post-Mortem Examination, 13 hours after death. The head measured twenty-two by fourteen inches. Body not rigid. There was some attempt at completion of the parietal, frontal, and occipital bones; but the greater part of the head was covered by nothing but skin and *dura mater*. I stripped off the scalp in the usual way, and, with a pair of common dressing-case scissors, I easily made the horizontal section of the bones and *dura mater*, previous to which I in part emptied the head of the fluid by an opening at its top, by which it was at once seen that the fluid was in the brain, and not within the arachnoid membrane. There was little blood in the longitudinal sinus. The falx was very shallow and imperfect. The convolutions on the upper surface of the brain were obliterated. The brain formed a large bag, containing more than two quarts of clear fluid. It was, about the falx, so very thin, as not to be discernible. It was generally hard, and of a greyish colour. At its back part, the white substance, to the depth of a line, was perceptible. In some parts in the interior, it was softened, and presented large red vessels ramifying under its serous lining. There are large, loose, soft flakes of lymph covering these vascular patches, which were principally on the left side, and posteriorly; they were less on the right. None of the central white parts of the brain were present. There was no corpus callosum, fornix, septum lucidum, fifth ventricle, or choroid plexus; and the same may, to a certain extent, be said of the optic thalami and corpora striata, from their flattened and unnatural appearance. The third ventricle was greatly enlarged, from the separation of these parts by the contained fluid. There was no soft commissure. The optic and olfactory nerves were yellowish and easily torn. The other nerves were healthy. The medulla oblongata, cerebellum, pons Varolii, and crura cerebri, were healthy and hard. The specific gravity of the fluid withdrawn was 1006·5; it contained the same salts as were present in the fluid of the preceding case.

These and other cases have proved to me the extreme rarity of Hydrocephalus in children, from sanguineous effusion into the arachnoid. With the exception of the cases of sanguineous effusion observed by MM. Serres,[1] Legendre,[2] and Rilliet and Barthez, I know of no others observed in children.

[1] Annuaire Méd. Chir., p. 18[illegible]. 1819.
[2] Révue Médicale, Dec. 184[illegible]—March 1843.

Mr. Prescott Hewett[1] and Dr. Burrowes[2] are the only persons in this country who have noticed it in adults. Dr. West never saw a case, proved by dissection, of external or arachnoid Hydrocephalus ; yet he says, " I should regard any case as favourable for operation which, on the whole, there was good reason for believing to be one of external Hydrocephalus, or in which the enlargement of the head had not been attended with indication of active cerebral disease. Though less promising, I should not reject the operation simply because enlargement of the head had been congenital ; while I should always be more ready to operate if nutrition were well performed, than if the child were emaciated."[3] The *post-mortem* examination of Deering's case, could alone convince me it was not one of arachnoid Hydrocephalus. The fluid withdrawn was bloody up to the last tapping, although congenital ; nutrition was very well performed, and the child had the exercise of all its organs. Again, Dr. West states, " I regret I cannot answer, so satisfactorily as I could wish, as to the applicability of pressure in these cases. It is my belief, however, that cases of external Hydrocephalus would be found better adapted than any others, to treatment by mechanical means."[4] I believe that it was unsuited to, and even the cause of death in the same case, by forcing the fluid in the inferior cornua of the lateral ventricle, through the optic thalamus, into the two sacs found protruding that part into the large central bag. In a case of Trousseau's, the ethmoid bone was detached from its connections, and the infant died from the effects of compression by adhesive plaster.[5]

It is my opinion, therefore, that in cases of Congenital Chronic Hydrocephalus, with enlargement of the head, neither pressure nor puncture are to be relied on as a means of cure. These may be employed with effect, possibly, in cases arising from sanguineous effusion ; but we have still to learn what are the characteristic types of this affection. Patients with congenital Hydrocephalus, in which either of these methods have been tried, are supposed to have been cured thereby ; but hydrocephalic patients will survive without either of these means being adopted ; and if they do, it is only to be a burden to themselves and their friends. Mr. Dendy is of the same opinion.[6] The truth is, that effusions of fluid, constituting Chronic Hydrocephalus, are, comparatively speaking, very rarely found in the bag of the arachnoid, or between the membranes of the brain. Dr. Monro says, " As I have not met with a single case in which the water was entirely on the outside of the brain, I cannot help suspecting that this happens much more rarely than is supposed by authors."[7] Breschet states that the fluid may be found, 1st. Between the dura mater and the internal periosteum ; 2nd. between the dura mater and the cranium ; 3rd. between the dura mater and the arachnoid ; 4th. in the cavity of the arachnoid ; 5th. in the ventricles ; 6th. in the laminæ of the pia mater. This division is only made in obedience to the views of systematic writers on the subject. In all the examples given by him, the fluid was contained in the ventricles. Peter Frank divides internal dropsy of the head into *hydrocephalus meningeus*, where the fluid was found between the membranes of the brain ; and into *hydrocephalus encephaloides*, where it was found in the cavities of the brain itself. This last is the most frequent. Dr. Watson[8] says, " When the cerebral ventricles are distended with water, we express the

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[1] Medico-Chir. Trans., vol. xxviii, p. 45. 1845.

[2] Medical Gazette, vol. xvi, p. 710. A case of hæmorrhage into the arachnoid is given in the Medical Press, vol. v, p. 326, by W. S. Stanley ; and in the Gaz. Méd. de Paris, 1834, p. 526, a case of Hydrocephalus from this cause is detailed by Bérard.

[3] On Diseases of Infancy and Childhood, p. 93. [4] L. c., p. 92.

[5] Journal de Médecine, April 1843.

[6] Winslow's Psycholog. Journ., Monograph, p. 12. See also Van Sweiten's Commentaries, vol. xii, p. 248.

[7] On the Brain, the Eye, and Ear. [8] Library of Medicine, vol. v, p. 97.

diseased condition by the term Hydrocephalus"; and Mauthner[1] states, that the fluid in congenital Hydrocephalus is found in the lateral ventricles ; and Meckel,[2] that "all observers agree in this, that in ventricular Hydrocephalus the brain represents a thin membranous bladder filled with water, whose quantity varies according to the stage of the disease, and which by its form and structure appears to indicate at one time a more early, at another a later period of its development."[3]

I have seen nowhere described a case of *External Encysted* Hydrocephalus like the following. The subject of it was a young male, found in the dissecting-room of the Royal College of Surgeons of Ireland, of whom no history could be procured. The preparation is preserved in the museum of the College. It consists of a bag of extremely delicate and semitransparent texture, capable of holding about six ounces of fluid, and tacked at several remote points by fine membranous adhesions to the serous surface of the dura mater lining the parietal bones. This bag was perfectly insulated, except from the adhesions first-mentioned. When first examined, it was plump, and filled with a clear thin fluid, which by its pressure, had produced a fossa, proportionate to its size, on the upper surface of the brain, and which fossa, or depression, remained when removed from the influence of the bag. The brain and membranes were otherwise perfectly sound.[4]

Neither have I anywhere seen, with the exception of a case by Dr. Houston, a description of *Internal Encysted* Hydrocephalus, such as existed in the two following cases, in both which, the brain was malformed.[5] The brain of the first of these cases, I lately exhibited to the Surgical Society of Ireland.

Case III. Congenital Hydrocephalus. Brain Occupied by Cysts and Scrofulous Material. Malformation of Brain. Catherine Markey, aged six months, was admitted to the Institution for Diseases of Children, July 9, 1849. Her parents were young and healthy, and she was their first child. She was seized with fits shortly after birth ; they continued to be repeated for some time. Her head had been of natural size until three or four weeks after birth. It was seventeen inches and a half in circumference, by ten and a quarter from the tip of one ear to that of the other. The frontal bone was divided into two portions, and the head was open from the root of the nose to the occipital bone eight inches, and four inches and a half laterally between the sphenoid bones. She could not hold it erect ; it fell to whatever direction it was inclined. There was no power of vision, and the eyes were very much depressed, but were straight ; the pupils were natural, and in great part concealed by the lower lids ; the thumbs were turned in. The infant was very cross, except when in her mother's arms ; food composed entirely of her mother's milk ; she slept in day-time, not at all at night ; she yawned continually ; head hot. *August 15th.* I this day tapped the head, introducing a very fine trochar, about an inch from the central line, in the situation of the anterior fontanelle, and removed two ounces of a perfectly clear and transparent fluid. She cried during the operation. The reason I withdrew no more fluid was, what surprised me much at the time, but is explained by the post-mortem examination, that no more of it would come off. This fluid was examined by Mr. Moore, who described it as "perfectly clear, and nearly as colourless as water. It was slightly alkaline : sp. gr. 1006. It contained but a trace of albumen, becoming milky on the addition of dilute nitric acid, but forming no decided precipitate. It contained a large amount of chlorides, with some sulphate and phosphate of lime. This specimen contained more chlorides and sulphate than the former one,

[1] Die Krankheiten des Gehirns, etc. Wien : 1844.
[2] Dict. des Sciences Médicales. Art. Hydroceph. Chronique.
[3] Pathologischen Anatomie, Bd. i, p. 269.
[4] Catalogue, Museum Royal College of Surgeons, vol. ii, p. 206.
[5] Vide Dublin Medical Press, February 20, 1850.

and much less albumen." *October* 1*st*. Her head is twenty inches by twelve. (Her mother's head was only one inch and a half in circumference larger, and was less than twelve inches from ear to ear). The infant was constantly grinding her gums. The orbital plates, instead of forming a right angle with the frontal portions, formed a circle with these parts. The eyes were partly sunk below the lids; the left was lower than the right, and was not closed during sleep. Her head, where unossified, was diaphanous; on applying the stethoscope to it, nothing could be heard. *November* 5*th*. Head twenty-one by thirteen inches; it had increased in size much superiorly. The openings of the head were eleven by seven inches. There was a space of nearly two inches between the parts of the frontal bone; the frontal bones projected much over the face, and laterally, and the entire head was manifestly greatly enlarged. The eyes were constantly in motion when awake, and generally strongly directed to the right, but I never saw them turned upwards; she slept with the eyes half open; they nearly closed when a candle was approached to them. Her legs and arms were rigidly flexed, and on trying to extend them, she cried; the fingers were stretched and separated. She started frequently; rolled the head about, and chewed. The veins of the scalp laterally, and of the forehead, were much distended, and the root of the nose, between the inner corners of the eyes, was black from the same cause. Her hair was very thin, jagged, and partly erect; the back of the head was nearly bald, apparently from the pressure of her mother's hand in keeping the head up in her arms. Her mother gave me, as an objection to taking her out, that whenever she did so, the child always got severe fits of dyspnœa from the wind. As a matter of curiosity, I one day gently blew upon her face, when, to my surprise, every time it was done, she drew with a noise a deep sigh, during which her tongue was slightly protruded, both arms were thrust forwards, and she appeared to suffer considerable distress. The same result followed every repetition of the experiment. *December* 31*st*. The infant was much quieter; arms rigidly flexed; hands elevated and pronated; legs flexed and rigid; she constantly moved the mouth and lips, as if tasting something; great projection and tenseness of the soft parts of the head; bowels too free. She continued in the same state until the 24th of January, when she died, without convulsions, aged one year and four days.

I considered it useless to repeat the operation of tapping the head. She never made an attempt at uttering an articulate sound; could not recognize her parents, and it seemed to me very doubtful if she had the sense of hearing.

On the 22nd of November, Mr. Moore examined the urine of this child. It contained a small proportion of urea; was alkaline and ammoniacal; a deposit found in it contained numerous prismatic crystals of triple phosphate and some phosphate of lime. On November 30th, it was feebly acid, contained some urea, exhibited oil-globules under the microscope, and yielded fat to ether.

Post-mortem Examination, eight hours after death, by myself and Mr. Leeper. The limbs were quite rigid, occupying the same position as during life; the head very soft, the bulging of the soft parts having disappeared; emaciation excessive, the integuments of the buttocks lying literally in bags; the belly was very large and tympanitic; the glands of the mesentery were greatly enlarged; the lungs were quite sound. The integuments of the head were very thin; no fluid was contained within the sac of the arachnoid; the convolutions were indistinctly marked. There was nearly a quart of fluid in the lateral ventricles, in various cells anterior to them, and in the centre of the brain. The cells in each hemisphere communicated indirectly and indistinctly; they were of all sizes, the largest holding more than two ounces of fluid, and they were lined with a fine smooth serous membrane. In puncturing the brain, the trochar had entered one of these cells. The brain over these cells was exceedingly thin, being not thicker than a sheet of

writing paper. The inferior cornua of the lateral ventricles were lined by serous membrane, under which appeared long fine red vessels, and were largely dilated by liquid; but they did not communicate, as between the two was a large transparent distended sac, holding four or five ounces of fluid, lying directly under the lower edge of the falx. On the anterior part of this sac, for about one inch, were a few very indistinct whitish transverse fibres, representing probably the remains of the corpus callosum. Underneath this cyst, was still another one. No part of the substance of the hemispheres was of a natural density. It was tough from the various cells, or hard and resistent to the knife at the outer parts of the lateral lobes, in which were imbedded irregular-shaped yellowish nodules, of the size of a garden bean, much harder than the central substance, which around them was quite fibrous. These nodules had much the appearance of scrofulous tubercles, but they were not separable from the surrounding brain, as these usually are. That they are closely allied so scrofulous exudation, would, however, appear from the result of the examination of a portion of them by my friend Dr. Carte, who found it composed of "compound granular cells and molecular matter. There were not observed either brain-vesicles or nerve-tubes." The interior of the brain was without blood, except the small veins underneath the serous lining of the lateral ventricles; there was a small quantity in the longitudinal sinus, much more in the straight and lateral sinuses. The brain was unnaturally adherent to the base of the skull from the optic nerves posteriorly to the medulla oblongata, which was firmly united to the surrounding bones by a structure, essentially fibrous. The falx, which was perfect and very deep, was also unnaturally adherent to the hemispheres by old adhesions, which readily gave way by pressure with the handle of the knife. Between the medulla oblongata and left hemisphere of the cerebellum, in the subarachnoid space, was a cyst capable of holding more than an ounce of fluid; it had separated the convolutions of the cerebellum. The cerebellum was of natural size, but was very soft, as were also the crura cerebri. The pons Varolii was very diminutive, being scarcely larger than the medulla oblongata, which was very hard. The olfactory nerves were very soft; the optic seemed natural, as also the third and fourth; the fifth, sixth, seventh, eighth, and ninth, could scarcely be distinguished, being intermixed with the fibrous morbid growth already described as surrounding the medulla oblongata. There was no fornix, septum lucidum, fifth ventricle, soft commissure, choroid plexus, optic thalami, corpus striatum, or pineal gland. The tubercula quadrigemina were very indistinct; there was no iter e tertio ad quartum ventriculum, the fourth ventricle forming a little sac, closed on all sides.[1]

Dr. Houston, in the fifth volume of the Dublin Hospital Reports, has given the description of a very rare form of Hydrocephalus, somewhat similar to this case. The patient, a healthy-looking female infant, was affected on the day after its birth with slight convulsions. About the sixth week, the convulsions ceased, but the child became more stupid, and the head began to enlarge. Its ears were sensible to sounds, and the sense of taste seemed unimpaired; but its eyes, which were rolled downwards, appeared incapable of being affected by light. When a year old, the head was enormously large and heavy, the fontanelles broad, and fluctuation was perceptible all through the cranium. At intervals, the infant voided large quantities of urine, the evacuation of which was manifestly followed by a diminution in the size and tension of the head, and by alleviation of the stupor. The bowels were always costive, and it slept continually, except when affected by hunger and thirst. It lived for one year and seven months; and, for several days before death, it had severe convulsive twitches. The weight of the head appeared equal to

[1] A preparation of the malformed parts of this case, along with the tubercular material, and a cast of the head, is preserved in the Museum of the Royal College of Surgeons of Ireland.

the entire weight of the body. A preparation of the brain, preserved in the museum of the Royal College of Surgeons, presents the convolutions broad and flattened; and such was the quantity of fluid in the interior, that on the removal of the membranes, the brain could with difficulty be supported entire. In the situation of the corpus callosum, a transparent membrane existed, scarcely concealing the fluid underneath. The lateral ventricles were vastly dilated by a limpid fluid, and thrown into one common cavity by the absorption of the septum lucidum; they were likewise, as here shown, rendered multilocular by the presence of several firm, opaque, projecting folds. But, in addition to the ventricular accumulations, various sized cysts exist independent of them, and which continued to hold a fluid after the evacuation of the water from these cavities. There are two such cysts, each of the size of an almond, in the site of the fornix and optic thalami. Two others exist in the anterior lobe of the right hemisphere, each capable of holding from one to two ounces of water, and perfectly distinct from each other and from the neighbouring ventricle. Those cysts were distended with fluid, and lined with membranes of the same character as those of the ventricles. The cerebral matter in their neighbourhood had undergone little or no change from that observable in other parts of the brain. The cerebellum and pons Varolii were both very small, and much softened in texture. The nerves were perfectly formed and distinct at the point of their exit from the skull, though their origins from the brain could with difficulty be traced.[1]

Case iv. Encysted Internal Hydrocephalus. Brain Malformed. Robert Carroll, aged seven months, was admitted under my care, July 16, 1849. His head was not larger at birth than natural, nor until he was six weeks old. He was the fourth child of his parents, who were both young; the father was addicted to drinking. Two of their children had died at birth, another was alive and healthy. This child had a fit when one month old. Since his third month, the head had remarkably enlarged. It was now twenty inches and three quarters by twelve inches. He could not support it, nor even turn it; it was very tense. The body was well formed, except an inguinal hernia; hands clenched; he seemed to have the use of his legs; the eyes looked healthy, but he did not appear to see. The pupils were not dilated, and contracted when placed in the sun's light; he cried much, and was very stupid. *October 6th.* He preferred to have his head hanging on his mother's arms, lower than his body. Head twenty-one by twelve inches; face yellowish; the eyelids closed in the sun, and when asleep he directed his eyes from side to side, but never raised them upwards, or the pupils above the lower lids. He used to vomit more than now, which was not much. He frequently started as if frightened, but used to do so more often; slept well at night; legs stiff, hands contracted. His mother stated that he did not seem at all sick. *November 15th.* Head diaphanous, twenty-one by twelve inches and a half. The sagittal and coronal sutures were nine and five inches in length. Frontal bone not divided. The lamdoid suture unclosed. Flesh very soft and wasted; he started up frequently; legs and arms flexed and he cried whenever an attempt was made to straighten them. The anterior fontanelle was distended and tense. Bowels habitually confined; constant yawning. Urine muddy; examined by Mr. Moore, it was found feebly acid, sp. gr. 1014; urea normal; no albumen; deposit of triple phosphate and phosphate of lime. *January 26th*, 1850. Head twenty-one and a half by thirteen inches. The soft parts of the head were more distended and tense. Slight convergent strabismus of left eye. The stethoscope indicated nothing. *February 1st.* Had a number of spots of purpura on his head, face, and back of neck; none on his legs. *20th.* Died this morning, the purpura having become faint, with vibices on his head and legs. For some days had purging of a slimy bloody matter. He was aged one year and one month.

[1] Dublin Hospital Reports, vol. v, p. 327.

Post-Mortem Examination, nine hours after death. Head excessively soft; no fluid in the arachnoid; convolutions flattened. The brain was superiorly very thin; at the posterior part of the left hemisphere, for the space of an inch, none of it existed, the fluid within being visible under the arachnoid. The fluid, a perfectly clear liquid-like water, to the amount of nearly a quart, was contained in both hemispheres, in a distinct, smooth, serous cyst, unconnected with the ventricles. These cysts had, on the left side, three or four very fine and tough strings running from one side to the other; on the right side there was but one, nearly a quarter of an inch in diameter. These cysts occupied the whole of each hemisphere, from front to rear; they did not communicate; the falx between them was very perfect and very deep, and was united to each hemisphere by old and easily fragile adhesions. There was no blood in the longitudinal sinus, very little in the veins of the pia mater, and none in the brain which altogether was very solid. The pons Varolii and medulla oblongata might be said to be unnaturally so. The corpus callosum, very tough, existed. The lateral ventricles contained about one ounce of fluid. The soft commissure and tubercula quadrigemina, the anterior commissure, and the anterior pillars of the fornix, all distinctly existed; but a strange alteration possessed the other parts of the lateral ventricles. Apparently from the compression of the cysts on each side, the corpora striata, instead of being, as natural, nearly horizontal, were perpendicular; the optic thalami were very small; and the left thalamus had connected to it, nearly its entire length, the corresponding part of the fornix; the right thalamus was also connected, but to a less degree, with the right side of the fornix, which was very narrow and hard, and which, by its connexion with the optic thalami, interfered with the connexion of the velum interpositum and choroid plexus; the right side of the fornix was imperfect The choroid plexus was natural, but hard; the walls of the fifth ventricle, nearly half an inch in depth, were very hard and thick, and were posteriorly entirely separated from one another, forming a direct communication with the third ventricle. The hippocampi majores were very large, and carried forward into the anterior cornua of the lateral ventricles; they were not symmetrical, and the tæniæ hippocampi were not visible. There was no pineal gland.[1] On the surface of the brain, in the right temple, was a clot of blood of the size of a threepenny piece, adherent to the arachnoid, and some blood was diffused on the skull in its vicinity. The petechiæ traversed the skin, and were seen at its under surface.

Such cases as the two last, we have no means of distinguishing from ventricular Hydrocephalus. The symptoms of both are the same; and the appearance of the head is identical in both. The parents of Case No. 3 would not again consent to the operation, from which I could promise no good result; and, for the same reason, the parents of Case No. 4 were not induced to agree to its performance, which indeed I regard as very fortunate, as it would have proved utterly useless.

These two cases disprove an error of Breschet's, who says, that the urine only deposits a whitish sediment during the course of internal Chronic Hydrocephalus, when the symptoms of acute dropsy of the cerebral ventricles are manifest.[2] In both there was such a deposit.

As to the cause of this encysted internal Hydrocephalus, I entirely agree with Dr. Carte; who, from a conversation I have had with him on the subject, is of opinion, that it is a form of hydrocephalus quite independent of inflammation, and arises from what may be termed an arrest of development of the proper brainy material. Fourcroy has noticed the large admixture of water

[1] A preparation of the cerebellum and malformed part is preserved in the Museum of the Royal College of Surgeons.

[2] Dict. de Médecine.

with the cerebral substance, and has pointed it out as one of those animal substances in which water exists in the largest proportion ; constituting three-fourths or four-fifths, and, in many instances, seven-eighths of its entire weight. This fact, as well as the small proportion of its other constituents, is well seen in the following table by L'Héritier :—

	Infant.	Youth.	Adults.	Old Men.	Idiots.
Albumen	7·00	10·20	9·40	8·65	8·40
Cerebral fat	3·45	5·30	6·10	4·32	5·00
Phosphorus	0·80	1·65	1·80	1·00	0·85
Osmazome and Salts...	5·96	8·59	10·19	12·18	14·82
Water.....	82·79	74·26	72·51	73·85	70·93
	100·00	100·00	100·00	100·00	100·00

Dr. Carte thinks it not improbable, that some one of these principles is wanting in the young subject ; and that the water being, on the contrary, in excess, and not meeting the other constituents in a proper chemical proportion to form the brainy material, this disease is produced in the same manner as rickets, from want of a due proportion of phosphate of lime. From the comparative analysis above stated, it appears that the minimum of phosphorus exists in infancy, in idiotcy, and old age ; and that the maximum of water is found in the infant. This latter fact, says Mr. Anderson,[1] is of practical interest, and affords some explanation of the *greater tendency to liquid effusions in early childhood* than in more advanced life. I cannot help regretting my inability to procure a correct quantitative analysis of the brains in Cases 3 and 4. At all events, this explanation of the cause of encysted, as well as ventricular Chronic Hydrocephalus, would confirm the views of Spengler and Barruel, as well as those of Barrier, Copland, Breschet, and Rilliet and Barthez, relating to the non-inflammatory origin of Chronic Hydrocephalus.

In the London Medical Gazette, April 15, 1842, Dr. West has drawn up an account of sixty-three cases of Chronic Hydrocephalus, in which the head was punctured. In two of the cases the puncture was accidental ; while in five instances, the results were not such as would justify classing the cases either as fortunate or as unsuccessful. Fifty-six cases then remain, in forty of which the patients died ; while in sixteen they are alleged to have recovered : in other words, the proportion of recoveries to deaths was as 1 : 3·5, or two out of seven of the total cases,—a comparison which Dr. West, still considering as correct, has adopted in his recent work on Diseases of Children. These figures would indeed indicate a very favourable result of the operation of tapping the head ; but a careful examination of the so-called successful cases, cited from Monro, Lizars, Russell, Graefe, Bedor, Marsh, and Conquest, renders their success very doubtful.

Ten of the cases are those supposed to have been cured by Dr. Conquest, all of which I cannot admit to have been successful. *Neither does Dr. Conquest himself assert, that he cured ten cases out of nineteen.* He says ten were living when last heard of, and nine were dead, "but it is only fair to state, that as most of these children were amongst the lower classes of society, who are continually changing their residences, several have been lost sight of, and *may now very probably be dead*, although when last seen, some time subsequently to their being operated on, they were living."[2] Before any case can be admitted to have been cured by the operation, it must be shown that a considerable time elapsed since its performance, and that during this period the health of the patient was perfectly good. Dr. Conquest, in his total number, operated seven times, once ; five times, twice ; three, thrice ; twice, four times ; twice, five times. The three cases given as cured, he punctured, once, twice, and five times. In the others only temporary relief was afforded, from the

[1] Todd's Cyclop. of Anatomy, etc., Part xxv, p. 588.
[2] Medical Gazette, vol. xxi, p. 969.

reluctance of the patients to have the operation repeated. One of the cases reported as cured was brought to America, aged two years six months. In another, five years after the operation, ossification was incomplete at the posterior fontanelle, and there were two openings in the coronal suture. In the third, eight years after the operation, the head was too large, but not larger than before she was operated on. In fifteen out of the nineteen cases of Dr. Conquest, no particulars are given beyond the mere statement of the number of punctures, and the quantity of fluid removed. His directions, moreover, for performing the operation of tapping the head, are very vague and unsatisfactory.

The table of Dr. West's cases shows, he says, that sometimes the puncture was followed by an almost immediate aggravation of the cerebral symptoms, and by death; usually, however, a degree of apparent improvement followed the puncture, but the fluid soon collected again, and less marked relief followed the second operation. With its repetition, the quantity of fluid increased; and, while the size of the head continued undiminished, or even grew larger, the body of the patient became emaciated, and death either took place from exhaustion, or cerebral symptoms came on, and life was terminated either by coma or convulsions.[1] Mr. Fergusson says,[2] that in one of his own cases, there was no improvement after half a dozen different operations, while sixty ounces of fluid were evacuated; and though the child was yet alive, and the proceeding had not been repeated during twelve months, he doubted if the operation was of the smallest permanent service. The undiminished size of the head, in consequence of tapping it, was remarkable in another of Mr. Fergusson's cases, as it was in case No 1. of my own. Mr. Holbrook[3] despaired of curing a case after he had punctured the head three times; and Kilgour,[4] after repeating the operation four times, and withdrawing fifty-one ounces of fluid, left the case to nature, perceiving that the head was steadily growing larger, notwithstanding the punctures. In Dr. Conquest's three cases reported as cured, the head was not diminished in size; in Graefe's, it is reported to have had the same circumference (18½ inches) as before the operation. In Mr. Kitsell's, it is stated to have retained its diminished size; while, in Dr. Whitney's, it was too large, and in Edwards' case, there is no account of the size of the head.

According to Mr. Fergusson, tapping the head is a proceeding which can be thought of only in early infancy, while the over-distended cranium is yet soft and pliable;[5] and this is the general view of all the operators, with the exception of Dr. Conquest, who states, that "in no instance has clearly-marked congenital disease been permanently benefited, and those cases have done best, in which effusion manifestly resulted from inflammatory action, and in which cerebral excitement followed the operation",—an opinion not seconded by any one. The conclusion we are justified in holding, from an examination of the sixteen cases reported by West, is, that not more than four of these (Graefe's case, and three of Conquest's, which I still look on as doubtful) were cured.

There are three other cases reported as cured by Drs. Whitney,[6] Edwards,[7] and Kitsell.[8] Whitney punctured the head twice, and withdrew nine ounces the first, and five ounces the second operation. Dr. Edwards' case was aged fourteen months when he tapped the head, and drew off eight ounces of reddish fluid. The trochar was introduced an inch, and there ensued an oozing of blood from the nostril for twenty-four hours. After the lapse of seven years, the child is reported as a fair scholar, and with every faculty good, but

[1] Medical Gazette, 1842, p. 138. [2] Syst. of Pract. Surgery, p. 490.
[3] London Medical Repository, vol. xxiv, p. 345.
[4] Edinburgh Med. and Surg. Journal, vol. liii, p. 303. [5] Loc. cit.
[6] American Journal of Medical Sciences, October 1843, p. 303.
[7] Edinburgh Monthly Journal, p. 398. 1846.
[8] American Journal, January 1850, p. 218.

to be increasing in height more slowly than is usual at his age. Mr. Kitsell's case was his own son, on whom he operated but once, at the age of eight months ; sixteen ounces of a limpid colourless fluid were withdrawn. Instead of closing the wound with a compress and retentive bandage, the discharge of the fluid was encouraged by occasionally cleansing and opening the puncture, thus allowing it to escape probably as fast as it was secreted, and which continued about five days and nights, gradually subsiding after soaking a large number of napkins ; the total quantity being computed at about four pints. At the end of nearly four months, the account is given of his being restored to perfect health, the head retaining its diminished size, the various sutures being closed, the anterior fontanelle much contracted and flaccid, and the cerebral pulsations being distinctly felt. I look on four months as too short a time, to record a patient cured by the operation of tapping the head.

The forty unsuccessful cases quoted by Dr. West are not the only cases on record in which paracentesis of the head had failed. From an examination of ancient and modern medical writers, we discover numerous cases unsuccessful, which, along with the forty cases in Dr. West's table, give about 100 unsuccessful against seven alleged successful cases, or, in other words, one patient in fourteen was cured by puncturing the head. But this proportion I do not regard as by any means exact, as I have known of the operation having been performed in Dublin about ten times unsuccessfully, and I have heard of others in the country in which it was undertaken ineffectually. Unfavourable results are seldom recorded. We can now understand why the operation has been denounced by Portenschlag, Borsieri, Mercati, Dupuytren, Physick, Portal, Paré, De la Motte, Boyer, Heister, Boerhaave, Breschet, etc., and only wonder at the error of one of the writers of the British and Foreign Medical Review, who says, "Making allowance for the fallacy of medical testimony in wonderful cases, which we are fully inclined to do, we will estimate the successful cases at *one-third*, and ask if any other remedy in this disease has been equally fortunate?"[1] In abdominal dropsies, "it must be remembered that paracentesis can seldom be contemplated as a mode of cure, but simply of temporary relief from distress";[2] "and although it should not be proscribed from practice", says Dr. Copland,[3] "I believe the cases are few that will be benefited, and still fewer that will be cured by it." In hydrocele of the *tunica vaginalis testis*, it is long since a radical cure of it has been attempted, by the inflammation produced by incision, excision, tents, setons, and injections : and if, in these two forms of dropsy, in which the containing parts naturally return to their proper position after the withdrawal of the fluid, a cure by its simple removal is so rare an occurrence, a reason is afforded us why dropsy of the brain, the parts of which cannot reassume their natural position or structure after the withdrawal of the fluid, is not to be cured by paracentesis of the head.

To induce inflammation in the brain is death. The operation "is certainly one attended with considerable immediate danger, not from the puncture, which is a very simple matter, nor from the sudden escape of a fluid, nor from the wounding either a vessel or the brain, but from the inflammation likely to succeed."[4] [Abridged from *Edinburgh Medical and Surgical Journal, No.* 184.]

AUSCULTATORY SIGN OF ENLARGED LIVER.

Dr. Walshe has described in the *Lancet*, a stethoscopic indication of enlarged liver, under the name of "*hepatic compression rhonchus.*"

"It coexists with inspiration only, or indeed, seems to be rather superadded to it, not commencing until the inspiration-murmur appears almost at an end.

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[1] British and Foreign Medical Review, vol. xii, p. 119.
[2] Watson, loc. cit., vol. v, p. 155.
[3] Loc. cit. p. 632.
[4] Fergusson's Surgery, p. 490.

Its evolution is peculiarly slow, drawling, and (if I may be allowed the expression) lazy, being, in this respect the exact reverse of that of the crepitant rhonchus of pneumonia. It consists of a variable (but commonly a great) number of excessively fine, dry crepitations, rather superficial than deep-seated; is rendered audible by forced inspiration only, and may be heard in front, at the side, and in the back of the right half of the chest (least commonly in front, however), at or near to, the upper edge of the liver. Its existence is completely independent of any lung-affection; and I have never found it on the left side, in these cases of liver-enlargement. The characters of this rhonchal sound are so peculiar, that a mere tyro would be able to distinguish it from all other varieties of rhonchus,—it differs essentially, as I have just proved, from crepitant, subcrepitant, and dry crackling, pulmonary rhonchi, and from pleural rhonchus. Of its mechanism I am not prepared, at present, to offer any demonstration; but it appears to me to be most feasibly explicable as follows:—The lower portions of the lung, pressed upon by the enlarged liver, undergo a sort of creasing, or condensation, which, in ordinary breathing, interferes with their expansion. By forced inspiration, the portion of lung implicated will readily be understood to be *uncreased* and so conceivably a series of sounds, such as I have described, is produced. Another fact strongly corroborates this hypothesis—namely, that it often ceases to be audible, for a time, after from one to five or six forced inspirations: the lung seems to require rest and time to be again creased up. Should further experience confirm this view of its mode of production, we shall have collateral support given to the doctrine I have long taught (and which, so far as I know, has not been refuted), that the crepitant rhonchus of pneumonia is formed, not in the air-cells or capillary bronchi, but in the pulmonary parenchyma itself. I am not able, as yet, to make any positive assertion concerning the frequency with which the rhonchus under consideration attends enlargement of the liver; but, on the other hand, I am in a position to affirm, that in no single case of notable increase of bulk of that organ which has fallen under my observation, since my first discovery of the rhonchus, have I failed to substantiate its existence. The sound may, it is true, escape detection on one or more occasions, but has never been absent for a series of days. On the other hand, I have not met with it in other conditions of disease; though doubtless, if my theory concerning its formation be well founded, it will probably be ascertained to accompany a variety of conditions, causing slight compression of the lung."

POISONOUS EXHALATIONS FROM AN APPARENTLY HEALTHY MAN.

We quote the following from p. 77-78 of the second volume of the *Transactions of the American Medical Association.*

"Some curious cases are related by Dr. C. E. Lavender (*New Orleans Med. and Surg. J.*, July 1848), which, in his judgment, go to show that the exhalations from one human body in a state of health may be poisonous to another. P. K. was married successively to two healthy young women. His first wife soon became pregnant, began to decline, grew pale and hydropic, and finally miscarried. She conceived a second time, and was a second time delivered of a still-born child, by a premature birth, the labour being marked by the singular circumstance, that no red blood followed the cutting of the chord, or the removal of the placenta. Her feebleness increased: pulse 110, compressible, and undulating: sighing, roaring, and uneasy feeling in the head: *light, and all white objects appeared to her yellow*, and the next day, *red.* She finally died without any well-marked affection. His second wife, in like manner began to decline soon after becoming pregnant, and died in about ten minutes, after suffering with a train of symptoms similar to those of the first. The optic illusions were strikingly similar. She could see but one half of an object, and that appeared to her *green*, or *green with red spots:* and

finally all light and white objects appeared *red* In both cases, without any apparent fixed disease, the emaciation went steadily on, and the symptoms, even to the singular affection of the retina, were nearly identical. The husband is a man whose cutaneous exhalations, especially under excitement, are so offensive, that all the civet of the apothecary would not sweeten him. Dr. L. refers to a third case, analogous in its symptoms, terminations, and all the attending circumstances. He concludes that some morbific matter, secreted by the systems of their husbands, was the cause of the obscure malady in these females."

SURGERY.

PETREQUIN ON BLACK CATARACT.

The occasional existence of Black Cataract (*cataracte noire*) has not been referred to by several distinguished writers on Ophthalmology, many of them having never seen it. Others, as Freytag, Gendron, Montain, etc., refer to it without having witnessed it. Janin of Lyons relates three cases, occurring in his own practice. In a woman, seventy years of age, he removed a large black crystalline lens, of hard consistence, enclosed in its capsule ; and which, when viewed through a light, appeared of a brown red colour. In another case, in the year 1767, he extracted from each eye a crystalline lens possessing similar characters. (*Mém. sur l'Œil*, 1772, pp. 259 and 261.) Wenzel and Pellier, Marc-Antoine Petit, Coze, Cloquet, Riberi, and others, have also met with cases.

The existence of Black Cataract being established, other questions arise for investigation. Dupuytren correctly remarks : " The greatest difficulty, in cases where the existence of Black Cataract may be presumed, is presented by the diagnosis. If the lens be totally black, it is difficult to determine whether there be cataract or not." (*Lec. Clin. Chirurg*, t. i, p. 49.) The extreme rarity of the disease prevents us from completely observing its progress ; and this is easily understood, when we reflect that Demours, Scarpa, Delpech, and Dupuytren, never met with it in their extended practice, and that not one case is recorded in the *Annales d'Oculistique*. For the complete demonstration of the disease, we require careful observations of such a nature as to furnish a rigorously exact diagnosis. We require such an examination of the affection, in harmony with the modern progress of ophthalmoscopy, as will satisfy the requirements of science, and leave no important desiderata. In proportion to the rarity of our opportunities of verifying theory by practice, they ought to be eagerly seized ; and this is what I have borne in mind in observing the three cases which have come under my notice within the last twelve years, in the Hôtel Dieu at Lyons. The research is not an idle one ; for it is capable of important application. An error in diagnosis may lead to most mischievous results : for instance, if an amaurosis be mistaken for Black Cataract, as happened to Dupuytren, a useless and even dangerous operation may be performed, which may destroy all chance of restoring the function of the eye. If, on the contrary, a Black Cataract be mistaken for amaurosis, not only is time lost in superfluous treatment, but the patient is subjected to unnecessary suffering from blisters, purgatives, the cautery, and setons, while a simple operation might cure him. These considerations must give additional importance to the cases, which will be now related.

Case I. Black Capsulo-Lenticular Cataract: Diagnosis: Extraction: Examination of the Lens. M. B. of Chapelle (Saône-et-Loire,) was admitted into the Hôtel-Dieu at Lyons, under my care, on the 24th September, 1847. His sight had been weak for several years, without any known cause. He never had headache ; but sometimes had a sensation as of gravel in his eyes. The left eye began to be affected twelve or thirteen years before, and for the last six years the blindness had been stationary. The patient was not only

unable to see her way, but could very imperfectly distinguish the presence of light. She had a black capsulo-lenticular cataract: the interior of the eye did not exhibit the brilliant reflexion, which is usually observed in viewing it through the pupil; the pupillary aperture, instead of presenting a brilliant velvety dark appearance, was of a dirty obscure black, not reflecting light. The patient's intellect was much impaired, so that we could not ascertain whether she saw better in the morning or evening than in the middle of the day, nor what colours objects presented at these times. The appearance and motions of the eye denoted cataract: the pupil was regular and mobile, which is not the case in amaurosis. The cataract was not of an inky blackness; but, when viewed through a lens, it appeared as a dark opaque body covered with soot, or rather as if it had been macerated in a solution of soot. In addition, a pretty large opaque triangular segment of the capsule, with its apex towards the centre of the pupil, was observed to be covered with blackish striæ, distinctly raised, when viewed in profile, from the rest of the cataract. When examined from the side, these striæ were found to be too near the cornea, to allow of the supposition of their being situated in the vitreous body, or, *à fortiori*, in the retina. On viewing it in profile, a convexity was observed; but the shadow of the iris was not thrown on it, as is asserted by some observers. On holding a candle before the eye, only the first of the three images was produced. On the 30th September, I performed extraction, by making an oblique incision to the exterior of the cornea, and through five-sixths of the semi-circumference of that membrane. The cataract being very large, I extended the opening with small scissors: I adopted the proceeding of Wenzel, by making an incision in the lens before finishing the section of the cornea. The lens did not escape spontaneously, nor when careful pressure was made on the eyeball: but I easily extracted it with a Dupuytren's needle. There was no prolapse of the iris, nor escape of the vitreous humour; and the operation was perfectly successful.

The cataract was black, of a dull hue, voluminous, hard, and enveloped in an equally opaque and blackish capsule, as if the whole crystalline system had been immersed in a dilute solution of Indian-ink. I preserved the specimen in alcohol: and, at the present time, after it has remained two years in the liquid, the blackness has given place to a reddish-brown: the cataract is shrivelled, and has become less voluminous and less opaque than at the beginning.

Case ii. Black Cataract of Lens: Diagnosis. A woman, named B., had Black Cataract of the right eye; but the capsule did not appear affected. The disease was not of such long-standing as in the former case, and the brown tint was more uniform. The usual lively dark colour could not be distinguished at the bottom of the eye. The pupil was regular and mobile, the look natural, and not dull as in amaurosis. A convexity could be recognized, which, when viewed in profile, assumed a less deep and more grey colour, without presenting any opaque point on the lens, either to the naked eye or to a lens. The black opacity was more homogeneous than in the left eye, and the loss of sight was more advanced: the patient could distinguish the day and the shades of light. A candle held before the eye gave two images. An operation was performed, at the earnest request of the patient: but she produced staphyloma by constantly applying her fingers to her eyes. This was somewhat relieved by remedies. From her irritating the eye, however, inflammation resulted, which produced deformity of the iris and opacity of a portion of the cornea. She sank into a state of senile idiocy, and left the hospital, on the 25th October, with little or no benefit.

Case iii. Double Cataract—Black in the Left Eye, Grey in the Right. J. T., aged 60, native of Ailloz, in Savoy, was admitted, under my care, into the Hôtel-Dieu, at Lyons, for double Cataract. In the right eye, the cataract was lenticular, greyish, with an amber-coloured softish and large nucleus. It had existed for six months, and the sight was more affected than

on the left side, where the eye had been diseased for eight years. In the left eye, the cataract was black, but not so perfectly but that some difference of shade could be discovered on viewing it attentively through a lens. The centre was of a deeper shade than the circumference: the pupil was moveable and regular, and the appearance of the eye, in other respects, was natural. The opacity was not very deep, and appeared, when viewed in profile, to be situated at the level of the pupil. On careful examination from the side, some convexity could be observed; but the shadow of the iris was not thrown on it. The cataract was of a dull black tint, like chimney-soot: it was mostly homogeneous, but a few isolated points towards the centre appeared more opaque, which made me suppose that the lens was affected in that situation. On viewing it in profile, it assumed a more reddish, and even greyish shade. The experiment with a lighted candle gave two images, of which the second was very confused, and disappeared in several places: my diagnosis was thus confirmed. A great number of medical men agreed with me, that there could be no doubt of the existence of Black Cataract. It was remarkable, that vision was less affected in this eye than in the right; for with this one, the patient could see to guide himself, and could distinguish the shapes and colours of objects. He even asserted, that vision had been improving in this eye for four or five months, and that it was less affected than in the early period of the disease. He also saw better on some days, and at certain times of the day; but could give no precise information on that subject. The cataract appeared hard, but less voluminous than that described in Case I.

Remarks. After describing the catoptric test, first proposed by Purkinje, in 1823, and revised by Sanson, in 1837, and shewing its importance in the diagnosis of Cataract from Amaurosis, M. Pétrequin makes the following observations:

The experiment was performed on our patient (Case III) several times, in the presence of several physicians and pupils; and a comparative examination was made of several diseases of the eye. I have referred to a remarkable fact, and one which gives rise to an interesting question. The patient imagined that his vision had improved in the eye which was affected with Black Cataract. To explain this, it may be supposed that when the right eye was scarcely affected, its comparatively sound state caused the vision in the left eye to appear more impaired; and that latterly, when the left eye became in its turn the seat of a confirmed grey cataract, the right appeared, though there was no actual difference, to have improved in power of vision, there being not an *absolute* improvement, but merely a *relative* one, such as is often the result of erroneous comparisons.

I have also been enabled to distinguish the degree of opacity, as well as the colour, of a cataract. Blackness is not sufficient to entirely prevent the perception of light. Thus, I observed that vision was not entirely destroyed in two of my patients; the woman operated on by Janin in 1767 perceived objects, and distinguished the flame of a candle as an object of a deep red colour; while the patient of M. Coze, operated on in 1818, could see to walk about the roads with which she was acquainted, especially in the morning and evening. In fact, a Black Cataract acts simply as a blackened lens; being almost analogous to the smoked pieces of glass used for viewing the sun. These do not altogether intercept the luminous rays, but only absorb those which are too intense. The use of coloured glasses is constantly ordered to patients, in order to attenuate the intensity of the light. Their use is too general to render it necessary for me to insist further on the analogy.

The black colour of the cataract is not sufficient to explain the partial blindness which accompanies it. We must take into account the opacity of the lens: this seems to be less than in some cases of cataract; and attentive observation has proved to me, that some lenticular cataracts, as they advance,

become harder, and are rendered sensibly less opaque by the thickening of their constituent parts. This phenomenon cannot have escaped notice ; and it is possible, that it was one of the causes which contributed, in Case III, to the amelioration of sight. It can also be understood, that the lens, in becoming hard, will become smaller ; and that the diminution in volume will permit more light to pass to the interior of the eye, either through the lens or its circumference. This phenomenon was apparent in Case III. By the aid of a lens, it was easy to recognize, while the pupil was dilated, that the black crystalline lens did not entirely fill the field of vision ; but that there was a crescent-shaped free space at the lower part, through which, notwithstanding its narrowness, a sufficient number of rays of light penetrated to become, by habit, adequate for vision. This may be proved by a very simple experiment. If a black bandage be placed over the eye, and a small fissure be left in it, a small quantity of light will be admitted, which will at length become sufficient for vision.

The cause of the colour of Black Cataracts is thus explained in a note by M. Pétrequin :

Many hypotheses have been framed to account for the colour. Rosenmüller thinks it due to melanosis : but M. Carron des Villards, who has examined a great number of horses labouring under this affection, has never found the crystalline lens black. M. Sichel refers this deep colouring of the crystalline to the different degrees of aggregation of its particles, and to the consistence of the cataract. But then, the lens ought to become blacker as it becomes harder : this is not the case, for the contrary often occurs. M. Langenbeck, junior, attributes it to the presence of manganese, which has been found in lenticular cataracts. For my own part, I am disposed to agree with M. Carron des Villards, that the colour is due to the predominance of black pigment, which penetrates into the lens by imbibition or endosmose, as is observed in the yellow tinge of icteric patients, and in the redness, from sanguineous exhalation or stasis, of asphyxiated children. It is very important to distinguish true Black Cataract from those brownish, striated, partial tints, which are called *choroidal or pigmentary cataracts.* This has been pointed out by M. Cartoni of Pisa, in the notes added to his Italian edition of Richter's *Surgery.* [*Révue Médicale,* 28th February, 1850.]

MEDICAL *versus* SURGICAL TREATMENT OF CATARACT.

Dr. Wilhelm Rau, Professor in the School of Medicine, at Berne, believes that ophthalmologists have been in error in rejecting the idea of healing Cataracts, even lenticular, in any other way than by operation. His conclusions are founded on the observation of ten cases, of which a few are here analysed.

Case I. A woman, aged 56, who had for some time been subject to rheumatic pains, was attacked with inflammation of the capsule of the lens, which produced opacity and extreme feebleness of vision, but not, fortunately, adherence of the pupil. As internal remedies, corrosive sublimate and wine of colchicum were prescribed ; and for external use, mercurial frictions to the eyelids. At the end of three weeks from the commencement of this treatment, the patient already saw better. At the end of a month, the opacity was perceptibly diminishing ; and in three months, there were only some dotted patches, almost imperceptible, remaining on the capsule. The patient then read large print without difficulty, and her general health was much improved. Polygala was then prescribed instead of corrosive sublimate, and the mercurial frictions were continued. After five months, the dotted patches remained, but the rest of the pupil was perfectly transparent, and the sight did not seem in any sensible degree affected. The patient remained in this state.

Case II. A man, aged 60, was affected with weakness of vision, which pre-

vented him from reading: and it was soon perceived that he had incipient double cataract. He had had rheumatic pains some time previously, and they still continued, though in a less degree. He was ordered to take pills of polygala with sulphuret of antimony and extract of arnica. At the end of two months, the cure was so complete, that there was no trace of opacity, and the eyes had regained their full power.

Case III. A man, aged 34, subject to hæmorrhoids, and to frequent transient attacks of congestive iritis, was seized, in January 1847, with chronic iritis, and with an excessive hæmorrhoidal flux. Leeches were applied to the anus; sulphur and neutral salts were administered. In a short time, iodide of potassium was prescribed internally, in doses of from 15 to 30 centigrammes (2¾ to 4½ grains) repeated morning and evening; and frictions with antimonial ointment were made on the nape of the neck, and behind the ear of the affected side. The inflammation of the eye was dissipated, and the pupil regained its mobility; but the opacity, nevertheless, persisted, and the patient had great difficulty in reading large print. He was moreover troubled with intense photophobia. The capsule of the lens was covered with a multitude of small opaque isolated spots; the intervening spaces were transparent. Dr. Rau prescribed corrosive sublimate, combined with mercurial inunctions. The opacity was suddenly arrested in its progress, and had nearly disappeared at the end of a month. The occurrence of an attack of gastralgia then caused the mercury to be discontinued, and for it were substituted bitter tonics, and a course of the waters of Homburg. Six weeks of this treatment entirely removed the opacity; and in eight months after, the sight was perfectly regained.

Case IV. A blacksmith, aged 50, of athletic build, somewhat addicted to liquor, consulted Dr. Rau for a dimness of vision, which had been gradually coming on for six months, without any assignable cause. He had incipient cataract of the lens in both eyes. Pills of polygala and sulphuret of antimony were prescribed, as well as mercurial frictions to the eyelids: and he was prohibited from working before the fire, and from indulging in the abuse of spirits. No manifest change having been produced at the end of two months, Dr. Rau prescribed iodide of potassium in gradually increasing doses. In a few weeks, the improvement was so great, that there only remained a slight cloudiness, and the patient could see to read large print. The iodide of potassium was continued, in decreasing doses; and, in three months, the cure was complete.

Case V. A man, aged 57, of an apoplectic constitution, and who had been affected for three years with suppression of the perspiration in the feet, had had, for three years, a gradual weakening of sight, so as not to be able to distinguish a person at the distance of three paces. The pupil was opaque in the centre, and transparent at the circumference: the patient was constipated. Dr. Rau prescribed pills of rhubarb with extract of aloes: the legs were sprinkled with a mixture of quick-lime and sal-ammoniac, with the view of reproducing the perspiration in the feet, but without success. At a later period, pills of sulphur and rhubarb, with cream of tartar, were prescribed. In two months, only very slight amendment had been produced, and the opacity of the lens remained in the same state. Iodide of potassium was then given, which produced a rapid amelioration, and, in six months, all opacity had disappeared. The patient has since assured the author, that he can see better at the distance of a hundred paces than formerly at three.

Remarks. It is to be remarked, that the Cataracts were *incipient* in the cases related. If we may hope,—and in this we are encouraged by the facts brought forward,—to arrest the progress of a certain number of cataracts in the early stage, it would be preferable to treat them actively at that period, instead of waiting patiently till they are ripe for an operation.

Of the remedies mentioned, the object of some was to combat the rheu-

matic diathesis, to which the Germans attach much importance in diseases of the eye. The remedies referred to are, corrosive sublimate, arnica, polygala, colchicum, sulphuret of antimony, and iodide of potassium. Hufeland regards corrosive sublimate as one of the most powerful anti-rheumatic remedies, especially when combined with guiacum, but he prescribes it in infinitely less doses than in syphilis. He used to divide ten centigrammes among sixty pills, of which the patient had to take from three to five daily. Arnica has long been employed in chronic rheumatism, and in all diseases arising from it. The dose is four grammes (about one drachm) infused for an hour in a quart of boiling water. Polygala has been also employed in rheumatic affections, and in intense ophthalmia. The ptisan is prepared by infusing 8 grammes (2 drachms) of the root, for two hours, in a quart of boiling water. The sulphuret of antimony is prescribed by Rau in pills, with polygala and extract of arnica. Colchicum and iodide of potassium are well known: the latter is prescribed by Dr. Rau in small doses, in the form of pill, with marshmallow and guiacum. [*Journal des Connaissances Médico-Chirurgicales*, 15*th* April, 1850; from *Journal der Chirurgie und Augenheilkunde.*]

LANGENBECK'S OPERATION FOR PHARYNGEAL POLYPI.

The case of fibroid tumour of the Pharynx, which I shall presently relate, and in which the patient had been rendered pulseless by hæmorrhage, led me to apply the Ligature to the treatment of Polypi, in imitation of the subcutaneous plan of Ricord for the treatment of varicose veins. This method can be applied without any difficulty to polypi with long pedicles, and the ligature can be tightened from hour to hour, and can be easily loosened at any time. In applying the ligature to Pharyngeal Polypi, I proceed in the following manner.

An elastic catheter with a fenestrated extremity, and two threads of strong waxed silk, are required. The patient sits in the usual position for all operations on the throat. The body of the polypus fills, as we suppose, the space behind the velum palati, and extends more or less downwards, while its pedicle is attached within reach of the posterior nares, or to the posterior wall of the pharynx. The catheter, having been previously oiled, is introduced through one nostril, (the choice of which is determined by the inclination of the tumour to the right or left), into the pharynx ; it is then guided with the fingers of the left hand so far forwards in the mouth, that the ligature can be passed without difficulty through the holes in its fenestrated end. The ligatures are previously arranged, each in a simple sling with ends of equal length. The free ends of the first thread are passed through the holes of the catheter while in the mouth, and then drawn back through the nose, while, with the fingers of the left hand, the portion closed in the form of a sling is pushed high up behind the polypus, yet so that the end of the noose still remains visible in the mouth. The catheter is again introduced through the nostrils, and the sling-like end of the second ligature is drawn outwards towards the nose, while the fingers of the left hand push the free ends of this second ligature high up in front of the tumour. The operator now passes in the mouth the free ends of the second ligature through the noosed end of the first, and an assistant does the same to the ends which are hanging from the nostril. While the operator and his assistant now each gently draw the free ends of the ligature, the former, with the fingers of his left hand, keeps up the ligatures in the pharynx, before and behind the polypus, so that they cannot slip down. The polypus is now seized in the ligature, and this may now be drawn tight. For this purpose, the operator takes hold of the ends hanging from the mouth with his left hand, and those hanging from the nostril with his right, and draws the latter so tight, that the nooses reach to the point of insertion of the pedicle. The same is done to the ends of the ligature in the

mouth, by means of the index finger of the left hand. The nooses, when once drawn tight, cannot again become loose ; the ligature is felt with the finger, behind the velum, surrounding the pedicle of the tumour, which can immediately be divided beneath the ligature. To perform this latter operation with security, the operator gives the ends of the ligature to an assistant, to hold them tightly drawn, while he seizes the polypus from the mouth by means of Muzeux's forceps, and cuts through the pedicle close below the ligature, with a pair of strong slightly curved polypus scissors. Should there be difficulty in reaching the pedicle with the latter, the excision may be performed by means of a straight knife, introduced either through the mouth or nostril. When the polypus has been removed from the mouth, the ends of the ligature are secured with strips of plaister. After two or three days, the ligature may be removed without danger. To effect this, the threads which form the ends of the ligature are separated, and one of each is divided as high as possible. The remaining single thread is easily drawn out, and the whole ligature is instantly untied : one thread being drawn through the mouth, the other through the nose. No further explanation seems necessary to shew, that this form of ligature can be applied in the same way to uterine polypi, after they have been seized by means of Muzeux's forceps.

Case. J. F. K., aged 23, of large and powerful conformation, appears to have suffered in his fifteenth year from dropsy after scarlatina. After this, he was ruddy and strong. In the Autumn of 1845, he first perceived an impediment to the passage of air through the nose, and soon was altogether unable to draw air through the right nostril. The affection had rapidly increased in severity, up to the time of his admission into the Frederick Hospital at Kiel, on 13th January, 1846. The following was then his condition. He breathed with his mouth open, the respiration through the nose being entirely impeded. Respiration was loudly stertorous ; the face was blue and swollen, and the veins of the conjunctiva much distended. The difficulty of breathing increased during sleep, and the patient often awoke with a sensation of suffocation. Deglutition, especially of solid food, was greatly impeded, and a portion of what was swallowed was returned through the left nostril. When the mouth was opened, the velum palati was observed to be much pressed forward, and its lower border was in a line with the fourth molar tooth ; it was also highly hypertrophied, and the uvula was elongated and thickened. On pressing down the tongue, the tumour, of the size of a goose's egg, was seen behind the velum. It was roundish and pyriform, with a reddened surface, with radiated excoriations, firm and elastic to the touch, and tender on pressure. The broad base reached as far downwards as the epiglottis ; the pedicle, which was as thick as a finger, was attached in the vicinity of the posterior nasal spine. The nostrils were free ; and the finger, when introduced through them, reached the tumour, which could be felt behind the velum palati. On the night between the 20th and 21st January, a very violent hæmorrhage took place from the tumour, and was only suppressed with much trouble by means of injections of cold water, pressure on the tumour, and simultaneous compression of the carotids. The patient fell into a state of syncope, which lasted for some time. In the morning he was very weak, and his pulse scarcely perceptible.

January 21. The fibroid tumour was ligatured in the manner described above ; the threads were introduced through the left nostril. After I had drawn the running knots very tight, the swelling assumed immediately a dark blue colour. I then introduced a strong pair of polypus scissors, curved on the surface, upwards behind the velum, and divided the pedicle of the polypus immediately beneath the ligature. No hæmorrhage took place ; and the patient in no way suffered inconvenience from the operation. A microscopic examination, made on the same day, gave the following results. The surface of the polypus was covered with a thick layer of pavement epithelium, in the large pale cells of which, pale excentric nuclei were disclosed by acetic

acid. On section, the tumour appeared of a yellowish-white, very elastic fibrous structure. Numerous blood-vessels, of the thickness of crow-quills, pervaded the tumour in such close ramification, that the cut surface, on being examined with a lens of low power, appeared porous, not unlike the corpus cavernosum. The entire fibrous parenchyma exhibited besides only the elements of areolar tissue in very various degrees of development, and numerous cell-nuclei, which were not affected by acetic acid.

January 27. The ligature was drawn tighter. The patient had had great ease since the operation, and had slept well. A purgative of sulphate of magnesia with oxymel was prescribed for some symptoms of angina.

January 28. Since the previous day, the patient had two slight attacks of rigor, followed by sweating: pulse 100, small. The face was pale and anxious, and the tongue coated with a yellowish fur. The patient complained of a foul taste and smell, arising from the sloughing of the remaining portion of the pedicle. This was withdrawn, with the ligature, by means of slightly curved polypus forceps. He was given *liquor chlori* for drink. The febrile symptoms disappeared in a few days, and the patient left the hospital, perfectly cured, on the 10th of February. Up to the winter of 1848, there had been no return of the polypus. (*Deutsche Klinik*, 6th April, 1850.)

ANEURISM OF THE ANTERIOR PALATINE ARTERY.

Two cases of this unusual affection have been lately recorded: one in the *Lancet* for July 6th, by Dr. A. C. Castle, of New York; and the other in the same Journal for 13th July, by Dr. W. B. Herapath, of Bristol. Both cases were at first mistaken for abscesses or tumours, and were only discovered to be of an aneurismal nature by the gush of arterial blood, which followed, in one case, the introduction of the lancet, and in the other, the removal of the tumour by means of scissors.

In Dr. Castle's case, the patient was a gentleman for whom a partial set of artificial teeth had been made, to complete the superior maxillary row. The swelling appeared on the palate, at the edge of the gold plate: and gradually increased to the size of a large pea, not being pulsatory, and presenting the character of a varicose tumour from impeded circulation. Dr. Castle snipped off the sac with a pair of scissors, when a gush of blood followed, which at once showed the tumour to have been an aneurismal sac. Pressure failed to arrest the hæmorrhage; but, on reflecting that the anterior palatine artery occasionally passes through a hole in the *centre* of the palatine suture, instead of immediately behind the alveolar plate, Dr. Castle was enabled, by plugging the foramen in the former situation, to effectually arrest the hæmorrhage.

In Dr. Herapath's case, there does not appear to have been an irregularity in the course of the artery. The tumour, which was in the roof of the mouth, was soft, puffy, red, hot, and apparently an abscess under the palatine membrane. The first molar tooth, being loose and somewhat decayed, was extracted, and the supposed abscess punctured. Very little pus appeared: and the principal effect of this operation seemed to be the production of excessive hæmorrhage from the alveolus, and not from the abscess. In two or three days after, Dr. Herapath, being summoned to the patient, who was suffering intense pain, plunged a lancet deeply into the tumour, supposing it to be an abscess which had not fully formed. Arterial blood immediately issued out *per saltum*. The hæmorrhage could be controlled by pressure; and was effectually arrested by means of a large wine-cork cut as an arch on the superior surface, shielded with lint, and fastened to a narrow bandage, which was secured by being carried over the head. At the time of making the report, ten months after the occurrence, all traces of the aneurism had disappeared.

MISCELLANEOUS INTELLIGENCE.

Medical Reform. During the present session of Parliament, some measures have been passed of considerable local importance. *The College of Surgeons of Edinburgh* have obtained an Act, by which Fellows on their entrance are not obliged to subscribe to the Widows' Fund; and by which, also, the College is separated from the Trade Corporations. *The Faculty of Physicians and Surgeons of Glasgow* have considerably strengthened their position. The bill "for better regulating the privileges of the Faculty of Physicians and Surgeons of Glasgow, and amending their Charter of Incorporation," has received the Royal assent, and is now the law of the land. The ancient charter of the Faculty, granted by King James VI, in 1599, has been again ratified, and the licensing powers of that body have not only been fully recognized, but the status and privileges of its licentiates better defined. They are in future to be precisely the same as those enjoyed by the licentiates of any other College in Scotland which is now, or may hereafter, be entitled to grant diplomas in surgery. The right of practice within the three counties, which formed the ancient bounds of the Faculty, is granted to all practitioners legally licensed. The Members are now to be designated Fellows of the Faculty of Physicians and Surgeons of Glasgow. As it is no longer to be compulsory to subscribe to the Widows' Fund, and as the standing of the Faculty has by this new Act been greatly exalted, it is thought that most of the physicians and surgeons of Glasgow and the neighbourhood will soon be enrolled among its Fellows.

The Society of Apothecaries have recently taken the profession somewhat by surprise, by their liberal proposals. We quote the following from an official letter addressed by Mr. J. B. Eyles, Master of the Society, to the Home Secretary, the Right Hon. Sir George Grey.

"The Act (of 1815) requires that the members of the Court of Examiners should be elected from members of the Society of not less than ten years' standing. The Society propose, that in future all licentiates of the Society of ten years' standing (whether members of the Society or not) shall be eligible for seats in the Court of Examiners, and that not less than one half of the members of the Court shall be licentiates who are *not* members of the Society.

"The Society propose that power should be given to the Court of Examiners, to divide the examination for their certificate into one or more examinations at proper intervals, with a view to relieve the student from the inconvenience of being subjected to an examination in all the branches of study on which he has been engaged, on one and the same occasion."

"At present, the fee paid for a certificate of qualification for practice in London is ten guineas, and for practice in the country six guineas. The Society propose that the fee should be equalized for the whole kingdom.

"The Court of Examiners are at present required to hold their meetings at Apothecaries' Hall. The Society suggest that this restriction should be removed, and that the Court should be authorized to sit in any building which may be provided for them, not being beyond a limited distance from the General Post Office.

"No person is admissible for examination, under the present Act, who has not served an apprenticeship of five years to an apothecary. The Society propose that the service of an apprenticeship shall be no longer compulsory on the student.

"The Society propose that there should be a registration of all persons admitted to practise as apothecaries, after examination by the Court of Examiners.

"That all persons holding a degree in medicine, granted by any British university, and all members of Scotch or Irish colleges which are authorized by law to grant a license or certificate of qualification to practise in *medicine* after examination, such license or certificate conferring the right to practise medicine in those countries, should be admitted to registration without further examination, on payment of a small registration fee.

"That all surgeons and assistant-surgeons in the army, navy, and East India Company's service, should be admitted to registration after not less than five years' actual service.

"The Court of Assistants of the Society of Apothecaries, in whom the control of the Society is vested, is a self-elected body. The Society would not be indisposed to adopt any change in the mode of election of that body which might, upon due consideration, be thought advisable, but the subject has been found one of considerable difficulty. An election by the members of the Society at large appears fraught with numerous objections, and the creation of a limited class, for the purposes of the franchise, has been found, in practice, to be productive of great dissatisfaction. The Society, in truth, are not prepared, at the present moment, to suggest any specific change in the mode of election of their governing body; but they would be willing to give the most favourable consideration to any alteration, in this respect, which you might recommend for adoption."

The London Journal of Medicine has, we rejoice to learn, already done good service in the cause of real Medical Reform; and has impressed some of those in high places, with the duty and necessity of improving the social and scientific status of general practitioners. The articles which appeared in our May, June, and July numbers, have been very largely circulated.

Self-Supporting Dispensaries. In our next, we may have some information to communicate on this subject. This evening, at 8 p.m. (29th July), a public meeting is to be held, at the Hanover square Rooms, of a society formed by Mr. T. D. Hawker, of 33, Edward-street, Portman-square, with the object of promoting the establishment of Self-Supporting Dispensaries throughout the United Kingdom and Ireland. The Earl Spencer, who has given £50 to the Society, is announced, in the circulars, as the President, and the Lord Portman as the Vice-President. The chair is to be taken by Mr. Benj. B. Cabbell, M.P.; and from the advertisements we likewise learn, that Mr. H. L. Smith, of Southam, the philanthropic Founder of Self-supporting Dispensaries, is also to be present. Self-supporting Dispensaries, if honestly and judiciously promoted, may be productive of immense benefit; but they are, from their very nature, particularly liable to abuses: and therefore it is evidently the first duty of a society formed for their general establishment, to give some distinct guarantee that it is not, in any case, to plant its institutions in opposition to the wishes or pecuniary interests of the majority of the medical practitioners of a neighbourhood. And it ought also to be distinctly understood, that all legally qualified practitioners should, after a certain period of residence in any neighbourhood,—say two years,—be allowed, *ipso facto*, to connect themselves with these dispensaries. Without the careful supervision of an influential central society, with good and stringent ethical rules, there would be great risk of pecuniary injury being done to general practitioners labouring among the humbler classes of society, who, with this new opposition, added to that of the druggist, might in some districts be at once ruined. In our anxiety to benefit one class, let us not bring misery upon another. Confiding in the sound judgment of Mr. Smith, we sincerely trust that his truly noble views may be realized. Everything, however, must depend upon the wisdom of the measures adopted by the Society.

The Epidemiological Society is now formed, with Dr. Babington as its President. We wish it every possible success.

APPOINTMENTS.

ARNOTT, Jas. M., Esq., elected President of the Royal College of Surgeons of England.
COULSON, W., Esq., elected one of the Consulting Surgeons to the German Hospital.
DAVEY, J. D., M.D., appointed one of the Resident Physicians to the New Asylum at Colney Hatch.
ERICHSEN, John, Esq., appointed Professor of Surgery in University College, and Surgeon to the Hospital, in room of J. M. ARNOTT, Esq., resigned.
HANCOCK, Henry, Esq., Surgeon to the Charing-Cross Hospital, elected Surgeon to the Royal Westminster Ophthalmic Hospital.
HAWKINS, Cæsar, Esq., elected one of the Vice-Presidents of the Royal College of Surgeons of England.
HITCHMAN, J., M.D., elected Superintendent-Physician to the Derby County Asylum.
KIERNAN, Francis, Esq., elected a Member of the Council of the Royal College of Surgeons of England.
LAWRIE, James Adair, M.D., presented by the Queen to the Chair of Surgery in the University of Glasgow, vacant by the death of Dr. BURNS.
MACDONALD, Wm., M.D., F.R.S.E., presented by the Marquis of Ailsa to the Chair of Natural History (formerly Civil History) in the University of St. Andrews, vacant by the death of the Rev. Dr. FERRIE.
MACKMURDO, G. W., Esq., elected a Member of the Council of the Royal College of Surgeons of England.
NICHOLS, W. P., Esq., elected Surgeon to the Norwich Hospital, in room of the late J. G. CROSSE, M.D.
PILCHER, G., Esq., elected a Member of the Council of the Royal College of Surgeons of England.
SOUTH, J. F., Esq., elected one of the Vice-Presidents of the Royal College of Surgeons of England.

OBITUARY.

BROMET, Dr., late Surgeon of H.M. 1st Regt. of Life Guards, at Bologna, on 7th July.
CASTILLO, Dr., Chief Physician to H.M. the Queen of Spain, at Madrid, June 30th.
CARRINGTON, Benjamin, M.D., Resident Medical Officer to the Holloway and North Islington Dispensary, at Holloway, on 28th June.
GREENWOOD, Jonathan, Esq., Surgeon, at Kirkdale, Liverpool, on 11th July.
MAXTON, James, M.D., of Kincardine, at Crieff, N.B., on 21st July.
PHILLIPSON, F. B., Esq., Assistant-Surgeon to the Forces, at Accra, Western Coast of Africa, aged 31, on 12th April.
POWELL, D., M.D., at New York, aged 27, on 17th June.
SHELTON, John, Esq., at Wraysbury, near Staines, aged 39, on 28th June.
STANDART, H. C., Esq., of Taunton, at Teignmouth, aged 68, on 15th June.
VINCENT, S. B., Esq., Surgeon, at Rickinghall, aged 58, lately.
WILKS, Thomas P., Esq., at Charing, Kent, aged 79, on 4th July.
WYATT, Peter, Esq., of Islington, at Exeter, aged 62, on 1st July.

TO CORRESPONDENTS.

CLASSIFIED CATALOGUE. Our thanks are due to many Correspondents for communications with reference to this elaborate work. It is necessary to remind our readers, that the Classified Catalogue of this volume occupies a much larger amount of space than will ever be required for subsequent Catalogues, in consequence of the present embracing eighteen in place of six months.

BIBLIOGRAPHICAL RECORD. The following and other works will be reviewed in the September number:—REICHENBACH *on Animal Magnetism;* THOMSON (A. T.) *on Skin Diseases,* and TILT *on the Ovaries.* It is our wish to notice books sent for review as early as possible; but the original articles sometimes occupy more space than was calculated on; and thus, our plans are temporarily deranged.

ORIGINAL COMMUNICATIONS. The following will appear in early numbers of the LONDON JOURNAL OF MEDICINE.

1. CORMACK, JOHN ROSE, M.D., F.R.S.E. On the Entrance of Air into the Uterine Veins, as a Cause of Danger and Death after Parturition.
2. GARROD, ALFRED BARING, M.D. Pathology, Diagnosis, and Treatment of Gout.
3. HANCOCK, HENRY, ESQ. On the Perineal Operation for Stricture of the Urethra.
4. KNOX, ALEXANDER, M.D. Examination of the Present State of our Knowledge regarding Vaccination and Re-vaccination.
5. PEACOCK, THOMAS BEVILL, M.D. On Empyema.

6. Quain, Richard, M.D. Description of the Stethometer, a New Instrument for Measuring the Chest. [*Illustrations on Wood.*]
7. Seaton, Edward Cator, M.D. Case of Softening of the Cervical Portion of the Spinal Cord: with Remarks.
8. Semple, Robert Hunter, M.D. Softening of the Brain and Spinal Cord.
9. Sibson, Francis, M.D., F.R.S. On Pericarditis. [*Illustrations on Wood.*]
10. Wilde, W. R., Esq. On Congenital Cataract, and other Congenital Diseases and Malformations of the Eye. [*Illustrations on Wood.*]
11. Williams, C. J. B., M.D., F.R.S. On the Physical Examination of the Abdomen.

*** The London Medical Gazette forcibly calls attention to an extraordinary practice which now prevails, of gentlemen allowing their names to be advertised as patrons of *rival weekly Journals!* Though we occupy an intermediate position between the weekly and quarterly Journals, and are therefore quite honestly and sincerely supported by their friends, we can fully sympathize with our contemporary; for what would the profession think, if two rival London Monthly Journals were to be promoted by the same parties?

Our contemporary, the *Medical Gazette* (28th June), makes the following commentary upon Mr. Churchill's circular, announcing that the *Medical Times* "has assumed a truthful tone" and "scientific position."—"We have been rather taken by surprise, in finding that the names of many of our old and valued correspondents have recently been displayed in the columns of a contemporary, as gentlemen who intend to give to that Journal their literary support. We have made inquiry of several who have been thus advertised, and have ascertained, that while the names of the writers thus appear in the pages of our contemporary, their lectures and papers will be sent as heretofore to the London Medical Gazette! If the profession are satisfied with this mode of dispensing literary patronage, we have nothing to say to it. It is to be regretted, however, that professional men should allow their names to be advertised as "eminent supporters" of a journal, to which they do not intend to contribute at all, or to send perhaps one paper in a volume, just to carry out the appearance of support. It has a bad effect with the profession; for unless such expectations be realised, it gives the character of puffing even to *bonâ fide* announcements."

London Surgeons Calumniated. Several correspondents call our attention to Mr. Syme's attacks on the integrity of London Surgeons. With regard to the imputations of Mr. Syme, we hope to see them withdrawn. It cannot be the wish of the Edinburgh University Professors and others who, along with Mr. Syme, are Conductors of the *Edinburgh Monthly Journal,* to allow the following unparallelled passage to remain on record, as an expression of the sentiments of all or any of their number. "*I knew that in that city*" (*London*) "*there were some shoulders well fitted to wear the tattered mantle of Sir Everard*" (*Home*), "*and I was not so sanguine as to look for any speedy improvement in the practice of men, whose sole object is to squeeze money out of their patients.*" We will venture to say, that a charge more odious and more unfounded never before emanated from the medical press. It occurs as part of Mr. Syme's editorial commentary upon old "Letters on the use of Caustic for the Treatment of Strictures of the Urethra," which are published in the July number of our northern cotemporary. Wrath and personal crimination may mingle in the present discussion on the treatment of stricture; but the controversialists, who use such weapons, shall find no place for their opinions in our pages.

BOOKS RECEIVED.

Anderson on Eccentric Nervous Affections. London: 1850. Birkett on Diseases of the Breast. London: 1850. Douglas (A. H.), on Diseases of the Heart. Edinburgh: 1850. Gray on Development of Retina, etc. From *Philosophical Transactions.* London: 1850. Harvey on Enlarged Tonsils. London: 1850. Hassing de Colicâ Scortorum. Copenhagen: 1848. Hogg on the Management of Infancy. London: 1850. Hooker's Physician and Patient. Edited by Dr. Bentley. London: 1850. Holland's (G. C.) Cases of Cure of Consumption and Indigestion. London: 1850. Jones (H. Bence) Animal Chemistry. London: 1850. Radcliffe (C. B.) on the Unity of Nature. London: 1850. Thomson (Anthony T., the late) on Diseases of the Skin; edited by Dr. Parkes. 8vo. London: 1850. Tunstall on the Bath Waters. London: 1850. Turnbull (James) on Consumption. London: 1850. Wallace (William C.) on the Adjustment of the Eye to Distances. New York: 1850. Whittle on Cholera. London; 1850.

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ORIGINAL COMMUNICATIONS.

CLINICAL ILLUSTRATIONS OF DISEASES OF THE NERVOUS SYSTEM.

By ROBERT HUNTER SEMPLE, M.D.

NO. II. SOFTENING OF THE NERVOUS CENTRES.

In a former communication,[1] I offered some general observations upon the subject of the Diseases of the Brain and Spinal Cord, and I illustrated my remarks with the detail of some cases, taken promiscuously from my notes, to shew the great difficulties which attend our investigations in this part of pathology. In the present paper, I intend to illustrate the subject of Softening of the Nervous Centres; and I regret to observe, that the obscurity which hangs over the affections of the cerebro-spinal axis generally, is more particularly noticeable in that peculiar form of disease, which the following cases and observations are intended to bring into view.

CASE I. SOFTENING OF THE BRAIN—CEREBRAL CONGESTION—APOPLECTIC CELL. M. T., ætat. 54, formerly a shoe-maker, of dissolute habits, but of rather cultivated mind, was seized on the 2nd of July, 1845, while an inmate of the Islington Workhouse, with a paralytic attack. For this complaint he was bled to ʒxxx, and took purgative medicines; and by these, and other usual means, he partially recovered, but his intellect became almost obliterated, he passed his urine unconsciously, and became in consequence so offensive, that he was placed in a ward by himself. He remained bed-ridden from the above date until the morning of May 23, 1846, when he was again seized with an attack resembling apoplexy; the pulse was 180, full and strong, and he had stertorous breathing. There was paralysis of the left side. He was bled to ʒxvj; and, during the bleeding, the stertorous breathing ceased, and did not subsequently return. At noon on the same day, he was still insensible; his pupils were fixed in a state between contraction

[1] LONDON JOURNAL OF MEDICINE, May 1850, p. 448.

and dilatation; pulse 160, rather feeble; bowels confined; urine passed involuntarily. To take saline purgatives.

May 24. Bowels still confined; tongue not examined, as he was unable to protrude it. To have two drops of croton oil immediately. He died on the 25th of May.

Post-mortem Examination forty-two hours after death. The body was covered with a rather thick layer of adipose tissue, and a considerable quantity of fat was found in most of the parts where it usually occurs. The skin was discoloured at the inferior part of the back, and a large bed-sore existed in that situation. The penis and scrotum exhibited an appearance of incipient gangrene.

Head. There was very little congestion about the scalp. The vessels of the dura mater were turgid with blood. The arachnoid membrane was slightly thickened and opaque; a large quantity of serous fluid, tinged with blood, was found beneath it, and flowed copiously both from beneath the membranes of the brain, and from the theca vertebralis. A large quantity of fluid was also found in the lateral ventricles, and in the third ventricle. The vessels of the brain itself were not congested; and the brain presented a tolerably healthy appearance, except in the parts about to be described. At the posterior part of the corpus callosum, immediately above the tubercula quadrigemina, there was a considerable amount of softening, the cerebral substance in that situation being of the consistence of thick cream, but of a white colour. In the anterior part of the right corpus striatum, there was a cavity of about the size of a hazel-nut, lined with a smooth membrane. On the left corpus striatum, there was a large, but not deep, excavation, of about the size of a half-crown, presenting a ragged appearance, and of a dark brown colour. The texture of this ulcerated portion was much softer than that of the surrounding tissue, from which it was not separated by any distinct line of demarcation.

Thorax and Abdomen. The viscera of these cavities were most carefully examined, but they exhibited no marks of disease; the kidneys especially were remarkably healthy.

Remarks. This was a case of chronic disease in a middle-aged person, confined altogether to the brain, and producing palsy, mental imbecility, involuntary discharge of urine, apoplectic seizures, and eventually death. The primary disease was probably a hyperæmic condition of the vessels of the brain; and that there had been a distinct effusion of blood at one time, was proved by the existence, *in the right corpus striatum*, of a true apoplectic cell. The palsy, it will be seen, was in the left side. After this first attack, it would appear that, while the hyperæmic condition of the cerebral vessels remained, the structure of the organ itself broke down, and its functions became gradually extinguished, and that life was destroyed by an attack of congestion of the membranes. This is a peculiarly fatal form of disease, when the congested state of the vessels of the brain is associated with a softening of its structure, and no treatment is likely to be of much avail; yet I cannot but maintain, that as the pulse was *full* and *strong*, and the breathing stertorous, the abstraction of blood was perfectly justifiable, as the symptoms positively indicated cerebral congestion, while the softening could be, during life, only a matter of conjecture.

Case II. Softening of the Brain—Pneumonia—Disease of the Mitral Valve. On the evening of November 16, 1841, I was sent for to attend Sarah T., ætat. 52, a tall, pale, sallow-looking woman, in the Islington Infirmary. When I arrived, I was informed that she had had a fit, and had been insensible about a quarter of an hour. When I saw her, however, she was in full possession of her mental faculties; but she spoke very indistinctly, in consequence of an accident she had met with several years before, and by which she lost, by exfoliation, large portions of the left upper jaw-bone and of the nasal bones. Her mouth, in consequence of the same accident, was habitually distorted. She had not been inclined to sleep previously to the attack, but, on the contrary, had suffered from the want of sleep. *She complained of total inability to move the left arm;* and when it was lifted by another person, as soon as the hold was relaxed, it fell down like an inanimate mass; but when the skin of the hand or arm of this side was pinched, *she immediately complained of the pain.* She was able to move the left leg as well as the right, and both legs seemed endowed with the usual amount of motory and sensitive power. The pupils presented no unnatural appearance, but were of the usual size and shape; she complained of great pain in the abdomen, with flatus and a disagreeable taste in the mouth; tongue moist; not much thirst; pulse rapid and irregular; bowels rather confined. The action of the heart was very irregular; a loud blowing murmur, heard chiefly at the apex, accompanied the first sound; there was no murmur in the neck. ℞ Magnesiæ carbonatis gr. v; essentiæ menthæ piperitæ m. v; magnesiæ sulphatis ʒss; infusi sennæ ʒj. Fiat haustus quartâ quâque horâ sumendus.

Nov. 17. I examined her again very carefully this morning, in order to form, if possible, a correct diagnosis; but although the paralysis of the left arm gave me reason to suppose that some disease of the brain existed, the other symptoms were too vague and unsatisfactory to point out the precise nature of the cerebral lesion. The pupils were of their natural appearance; she had passed a sleepless night; *she was in full possession of her mental powers.* The left arm was still perfectly sensible, though it had entirely lost the power of motion; no paralysis existed in any other part. The patient complained of great pain in the abdomen and back, which she said was increased on pressure; but as this external sensibility was general over the whole body, it was considered to be neuralgic. She was directed to take, every four hours, a draught consisting of ten minims of tincture of opium, and one ounce of peppermint water.

Nov. 19. The symptoms are much the same, but she seems to be sinking; pulse very feeble, but the action of the heart remains strong, the murmur loud, and its movements irregular; tongue dry and furred; great thirst; head-ache, and occasional nocturnal delirium. She was ordered a glass of port wine daily, and the following draught to be taken every four hours: ℞ Spiritûs ammoniæ aromatici m.xx; spiritûs lavandulæ compositi m.x; aquæ menthæ piperitæ ʒj. M.

Nov. 20. On a physical examination of the chest, which I cursorily made, I detected a crepitant rhonchus at the lower and posterior part of the right lung. There was no cough, dyspnœa, or expectoration; but the presence of pneumonia was clearly indicated by the physical

signs, and by them alone. The state of the pulse precluded the possibility of abstracting blood; and in consequence of the general depression of the vital powers, I considered it inexpedient to discontinue the administration of the wine and the stimulant mixture. But I ordered her to take immediately three grains of calomel, and half a grain of opium.

On the two following days, the symptoms remained essentially the same; the crepitant rhonchus continued, but, as at first, without any cough, expectoration, pain, or any other rational symptom of pneumonia, adding another instance to many observed and recorded, in which the only evidence of this formidable disease is to be derived from the physical signs, and proving the necessity, in all cases, of examining the condition of the lungs and heart, whether those organs *appear* to be affected or not. The calomel and opium were repeated, together with the other treatment above-mentioned, but without any amelioration of the symptoms. She gradually sank until November 23, when she expired, *having been in the full possession of her mental faculties for many hours before her death*, complaining of excessive tenderness of the abdomen and back, but never referring her complaint either to the head or the chest, which were the real seats of disease, and which were so considered by me during life, although the violent pain complained of in other parts was calculated to mislead.

Post-mortem Examination. *Head.* The skull-cap, skull, and dura mater presented no remarkable appearance. The vessels of the arachnoid membrane were very minutely injected; the membrane itself presented an opalescent appearance, owing to a quantity of thin, transparent serous fluid effused beneath it, which escaped in great abundance from the surface of the brain and spinal cord during the dissection. The substance of the *left* hemisphere was healthy, and of its natural consistence; the ventricle on the same side contained an unusual quantity of thin serous fluid. On examining the *right* hemisphere, a patch of softening was discovered in the anterior lobe, above the roof of the ventricle, and not extending to the surface of the brain; the softened part was two inches in length and one in breadth, and of a curved form; it had a dirty brown colour, and a ragged, ulcerated appearance. On inspecting the right ventricle, it was found that the corpus striatum of this side was softened, its surface presenting a ragged appearance, and being uncovered by the layer of membrane which lined the rest of the cavity. On tracing the diseased mass, it was found that the softening involved the whole of the right corpus striatum, and extended as far as the inferior surface of the brain. The whole of the softened part was of a pulpy consistence, and of a dirty ash-grey colour, the grey and white substances being apparently mixed up together in a confused mass.

Chest. The right lung was adherent to the parietes of the chest by strong bands: the left lung was not adherent. The heart, on a superficial view, appeared larger than usual. The right auricle and ventricle, the pulmonary artery, and the venæ cavæ, contained a large quantity of half-coagulated blood, together with large coagula of fibrine of a straw colour. The parietes of both ventricles were rather thick, and the columnæ carneæ, were increased in size. The tricuspid valve and the

semilunar valves of the aorta and pulmonary artery were healthy, but the mitral valve was diseased. The left auriculo-ventricular opening was very much contracted, so as scarcely to admit one finger, and the mitral valve was thickened and indurated so as to form a strong, narrow tube. The right lung was generally congested; and the posterior part of the inferior lobe was highly inflamed. The cut surface presented a dark red colour, and a large quantity of frothy fluid flowed from the incision. The substance, however, was not hepatized, but crepitated as usual, showing that pneumonia had not proceeded beyond the first stage.

Abdomen. The liver was congested; the kidneys somewhat enlarged; the intestines perfectly healthy.

Remarks. In this curious case, there was extensive softening of the brain, without any remarkable symptoms during life. It will be observed that the disease occupied the *right* hemisphere; while, during life, the *left* arm was powerless. Before my first visit to her, she had had a fit, but I had no means of knowing the exact nature of the attack. The mental faculties were unimpaired almost throughout; there were no convulsions; no rigidity; no pain in the head; no vomiting; and the only symptoms which were caused by the cerebral lesion, appear to have been immobility of the left arm, and *pain in the abdomen and back.* Of the treatment, of course, little can be said; for with such a complication of diseases,—softening of the brain, disease of the mitral valve, and inflammation of the lung,—no plan could have been attended with the slightest success.

Case III. Softening of the Brain—Medullary Sarcoma in the Brain—Phthisis—Granular Disease of Kidney. Harriet D., æt. 48, married, an inmate of the Islington Workhouse, first came under treatment in April 1848. She stated that her husband struck her a very violent blow on the head about two years ago: this blow, according to her statement, was near the vertex; it stunned her, and the wound bled profusely. She had had several children, and had suffered for the last eight years with prolapsus of the uterus. She had lately fallen away much, and had several times spit up blood in large quantities.

The appearance of this woman's face was very peculiar, owing to the great prominence of the eyes, which were large and globular, and appeared to be starting out of their sockets; the pupils were dilated, and the eyes altogether had a dull appearance as in amaurosis; the sight was impaired, but not lost. She stated herself that this affection of the eyes came on soon after the blow just mentioned. She suffered from excruciating pain in the head, so that she was compelled to scream out; and her cries were so loud as to disturb the other patients. She had also great pain in the chest, and superficial tenderness beneath the clavicles: she suffered from continual cough, and expectorated thick, hard sputa, which were sometimes stringy, gluey, and frothy, and occasionally streaked with blood. Appetite very bad, and constant retching after every attempt to take food. Bowels irregular, sometimes very much open, at other times confined. Urine rather scanty, fetid, albuminous. Cavernous respiration beneath each clavicle: sonorous, sibilant, and mucous rhonchi in all parts of the lungs. Action of the heart normal, and without morbid sound. The hair was

ordered to be cut close, and rags dipped in vinegar to be applied to the head. A blister was ordered for the chest, and the following medicine was ordered: ℞ Antimonii potassio-tartratis gr. ij.; tincturæ hyoscyami ʒij.; liquoris ammoniæ acetatis, et misturæ camphoræ, āā ʒiij. M. Sumat cochlearia ij. magna quartis horis. ℞ Calomelanos, et pulveris ipecacuanhæ, āā gr. iij. Fiat pulvis ter in die sumendus.

Under this treatment, the symptoms were a little relieved; the pains in the head became less constant; the sickness and retching were at first increased, but afterwards gradually subsided; she began to sleep better, and the bowels became more regular. The appetite also improved, and the chest symptoms were relieved.

May 20. The calomel was now discontinued, and the blue pill was ordered to be taken twice a day, in doses of five grains.

May 22. An eruption of purpura broke out over the body. To discontinue the other medicines, and to take the following draught every four hours: ℞ Liquoris potassæ, et vini colchici, āā m. xx; aquæ menthæ piperitæ ʒj. M. She continued this mixture for several days, and appeared to be improving.

May 29. She was seen at ten o'clock in the morning of this day, when she did not seem so well. The nurse went to bring her some medicine which was ordered; but before she obtained it, the patient suddenly turned black in the face, and died.

Post-mortem Examination forty-eight hours after Death. *Head.* Scalp and skull of the usual appearance. When the calvarium was removed, the vessels of the dura mater appeared congested, and the veins of the brain, seen through the membranes, were turgid with blood. The arachnoid membrane was not thickened. On proceeding to remove the brain in the usual manner, by dividing the nerves and vessels from before backwards, I found that the optic nerves were small and atrophied, but not softened, at the line of my incision, which was between the commissure and the optic foramina. After dividing the tentorium, and cutting through the medulla oblongata, and then drawing out the cerebral mass, I found that I had left in the middle fossa of the skull, on the right side, a large portion of cerebriform substance, which I feared at first was a portion of brain accidentally detached, although I felt sure that I had been very careful in removing it entire. I soon discovered, however, that it was a large soft tumour, distinctly presenting the characters of medullary sarcoma. This diseased mass was of about the size of a small orange, and it weighed two ounces and a half; it was adherent to the falx cerebri and tentorium; its external portion rested upon the temporal bone: and superiorly it was covered in by the middle and posterior lobes of the brain. The cerebral substance around this morbid growth was softened, and it was excavated so as to allow the growth of the tumour; so that, on looking at the inferior surface of the hemisphere (the brain being placed on a dish, with its base upwards), it was seen to be excavated into a cup-shaped depression, and, at the bottom of this depression, there was a communication into the lateral ventricle; the floor of which was therefore partly formed by the adventitious substance, which had taken the place of the proper cerebral structure. The right lobe of the cerebellum was smaller than the left, owing to the presence of the tumour; and, from the same

cause, the right thalamus opticus and the right corpus striatum were very much diminished in size. On examining the base of the brain anteriorly, it was found that the olfactory nerves were softened; the commissure of the optic nerves themselves was so soft, that they could not be traced round the crura cerebri. The portion of the brain above the optic commissure was also softened. The other portions of the organ were apparently healthy. The tumour was subsequently more particularly examined. It had a soft doughy fluctuating feel; and, upon microscopical investigation, it presented the usual nucleated and caudate cells peculiar to this form of carcinoma.

Chest. On both sides, there were recent adhesions, and about half a pint of fluid was contained in each pleura. The right lung was voluminous, dark-coloured, crepitating in some parts, emphysematous on the anterior edge. The upper portion was solidified by tuberculous deposition: one cavity as large as a walnut, and several smaller ones, were found near the apex. The left lung was rather small, with a cavity at the apex as large as an egg The bronchial tubes of both lungs were intensely reddened, and filled with muco-purulent fluid. The heart was small and flabby; all the valves healthy.

Abdomen. The viscera of the abdomen were generally healthy. The left kidney was small and flabby. The proper coat peeled off easily, showing a dark, mottled, granular structure, the internal portion of the kidney exhibited abundant granular deposition. The right kidney was healthy.

Remarks. In this case, it was evident, during life, that there was serious organic disease of the brain, from the peculiar appearance of the eyes, the impaired condition of vision, and the long-continued and violent pain in the head. I was prepared to find some lesion of the cerebral structure about the origin of the optic nerves; but there was nothing whatever which could lead me to suppose, that there was so large a tumour of medullary sarcoma; and I think the case curious and interesting, and one of no common occurrence. The treatment, of course, could be only palliative, but it seemed to be attended with a certain amount of relief to the more urgent symptoms.

Case iv. Softening of the Brain—Hypertrophy of the Heart—Granular Disease of the Kidneys. J. R., æt. 62, an inmate of the Islington Workhouse, a married man, of middle size, but stout and with short neck; rather pale, but not presenting any œdematous appearance, said to have been of intemperate habits, was seen by me, April 22, 1850. His wife informed me that he had been out of health for some time; that he had complained of giddiness at various periods; she also said that he was unable or unwilling to speak; he was also observed to have an unmeaning smile upon his countenance. When I saw this man on the above date, he was brought to me by his wife, merely for the purpose of telling me that he and she were going out of the Islington Workhouse, and asking me whether I thought it would be safe for him to do so. He had a bewildered air, but was quite able to answer questions, which were put to him; but his appearance was dull and heavy. The head was rather hot, and he complained of great pain; the pupils were fixed between contraction and dilatation. Pulse 100, full and strong, tongue clean, bowels rather confined. There was

no paralysis, convulsion, nor spasm of any part of the body, although I made every inquiry of his wife concerning these points. My impression was, that he was on the point of having an apoplectic attack; and I therefore strongly urged his wife not to take him out of the workhouse, but to place him in the infirmary; but, in giving this advice, I had no means of knowing whether it would be followed. I recommended him to be bled to ʒxvj, which was done; and to take some saline purgative medicine, to be kept quiet, and his head to be kept cool; diet to be moderate.

April 23. Felt much better; head free from pain. He left the workhouse, against my advice, on the 29th of April. He was, however, brought in again on the 8th of May, as he had not improved since he went out.

May 9. He did not present any peculiar appearance, but his intellect seemed rather dull; he however answered questions quite rationally. He was not paralysed, and had no rigidity, nor convulsions in any part. *I was satisfied of this from my own observation; and although I frequently sought for and expected some of these symptoms, none made their appearance.* The head was quite cool and moist, tongue clean and tremulous. Pulse 80, weak, and occasionally intermittent. Bowels confined. Hair to be cut close, and a blister to be applied to the nape of the neck; some saline purgative medicine to be given. The urine was albuminous.

May 10. He tore off the blister, but it had risen previously. Pulse 80, feeble, but not intermittent. Tongue, when protruded, tremulous; bowels open. To have some saline medicine.

May 13. Had passed a restless night, frequently getting out of bed. A blister to be applied to each temple. To have some saline purgative in camphor mixture.

May 14. Rather more quiet; the blisters had risen.

May 15. Much in the same state.

May 17. 8 A.M. Was attacked with violent epistaxis of the left nostril, which was therefore plugged. He rapidly, and somewhat unexpectedly, sank, and died the next day, May 18.

POST-MORTEM EXAMINATION, SEVENTY-TWO HOURS AFTER DEATH. Body well formed, not emaciated; no œdema in any part.

Head. No particular appearance about the scalp and skull. Dura mater pale. The arachnoid membrane was generally pale; but there was some vascularity on the left side of the vertex. The surface of the brain was pale. The brain was removed entire; a small quantity of limpid fluid flowed from the theca vertebralis. The whole surface of the brain was carefully examined, and it was found that its arteries were generally diseased, their internal surface being lined with an atheromatous deposit, and the vessels generally having a feeling of hard, rigid tubes. The consistence of the surface of the brain was almost universally healthy, but at the inferior part of the middle lobe of the right hemisphere, there was a small opening which led into a jagged cavity of a very irregular shape, from which a small quantity of limpid fluid was poured out. This cavity, it may be mentioned, appeared to communicate with the lateral ventricle of the right side. The brain was now examined from above downwards, in order, if pos-

sible, to observe the exact relations of the cavity just described. The upper portion of the brain was removed on a level with the corpus callosum; here the substance was of the usual consistence, but, on examining the ventricles, it was found that the fornix, the optic thalami, the corpora striata, and the cerebral substance adjoining, were all in a softened state, and of about the consistence of clotted cream; but the colour was not changed even in the immediate vicinity of the jagged cavity. It was found impossible to trace the exact boundaries of the cavity above described, owing to the very soft condition of all the parts around it. A portion of the diseased cerebral mass was examined microscopically by Dr. Jenner, who discovered a great number of fat globules, and a diminished number of nerve-fibres. It should be mentioned, that there was no smell whatever from the brain, nor was there any disease of the bone in the vicinity of the softening.

Chest. The lungs presented no remarkable appearance. The heart appeared very large; and, upon examining the whole of its structure, it was found that the left ventricle was hypertrophied to a very great extent, the parietes being twice as thick as usual. The valves, however, were all healthy. The colour of the heart was quite natural, and its consistence quite firm.

Abdomen. The organs in the abdomen presented no remarkable appearance, with the exception of the kidneys. The *left kidney* was small, with a tuberculated appearance externally, owing to the presence of a number of cysts, containing a thick, yellowish, transparent, sizy matter. The investing membrane was removed readily, and the surface below presented a mottled appearance. The organ itself was very small; the cut surface was of a very dark colour, and was congested; and there seemed to be an atrophy of the cortical structure. The right kidney was not so much diseased as the left, but agreed generally with it in appearance.

Remarks. In this very obscure case, there was softening of the brain, hypertrophy of the heart, and granular degeneration of the kidneys. The softened state of the brain was probably due to the rigid condition of the cerebral vessels, which prevented the organ from receiving a due supply of blood. The symptoms of softening of the brain were not at all marked; and although there was extensive disease of the kidneys, there were none of the ordinary symptoms indicating granular disease during life. At first, I imagined that the symptoms indicated a threatening attack of apoplexy; and I treated the case accordingly; but I subsequently entirely abandoned that idea, and I attributed the malady to some organic disease of the brain. It is very probable, that there existed during life a hyperæmic condition of the brain, for the symptoms at first decidedly indicated such a state; and the paleness of the brain after death is of course attributable to the copious hæmorrhage which took place on the day previous to his decease, and which was probably an effort of nature to relieve the congested organ.

Case v. Softening of the Spinal Cord. Mr. J. T., æt. 59, a gentleman engaged in a considerable mercantile business, of strictly moral character, and perfectly sober and temperate in his habits, became

affected, about five years before my attendance upon him, with diminished power of voluntary motion in his lower extremities. At first he experienced only a slight difficulty in walking, but gradually this inability increased, and he was compelled to support himself upon a stick, and to lean upon another person. His movements were very irregular, owing to a want of control over the voluntary muscles; and at last he was obliged to leave off walking, and to confine himself to carriage exercise. He also suffered from occasional violent pains, shooting from his back to his abdomen, and sometimes from his feet upwards. He had consulted several medical men, among whom were some of the most eminent members of the profession; but he had not received any permanent relief from their advice. He had also resorted to homœopathy with as little success; and, by the recommendation of some of his medical attendants, he had repeatedly tried change of air, and had resided for some months in Jersey, with slight benefit.

I was first called in to attend him on the 6th of January, 1847, when I found his condition to be the following. He was sitting up, and, at the time of my visit, was free from pain or uneasiness; he however told me that he was unable to use his lower extremities, and could not walk up or down stairs without assistance. Although, however, he was deprived of voluntary motion, his legs were frequently convulsed by involuntary movements, over which he had no control whatever. He stated that he suffered very violent pains of a most excruciating character, coming on suddenly, and ceasing also suddenly. His digestive system was occasionally deranged, and he was subject to violent attacks of vomiting: but, in general, his appetite was very good, and he sat down with his family every day to dinner, of which he partook heartily: he also slept well, when free from the attacks of pain. His intellect was quite unaffected, and he never suffered from headache: his bowels were pretty regular: his urine was passed regularly, and was under the control of the will. He had the complete use of his upper extremities, and could write and feed himself with perfect ease. On examining the sensibility of the body, it was found that, below the last dorsal vertebra, pinching could be borne without any manifestation of pain, or indeed of sensation; but above that point, he was sensible of the impression. His tongue was quite clean: pulse 80, and moderate. The heart and lungs were examined by auscultation and percussion, but were found quite healthy: the liver, also, was of its usual size, and not tender upon pressure: all the other abdominal organs were quite sound. Among other remedial means which had been proposed, he had been recommended to apply a blister along the spine; but this had so aggravated the pain, that he was compelled to heal it up.

Under these circumstances, I became convinced that he was labouring under some organic disease of the spinal cord; and, as I believed it impossible to cure the malady, I adopted only a palliative treatment. I recommended him to ride out in an open carriage when the weather would allow, to use friction along the spine, and to have nutritious food, together with a moderate allowance of wine or weak brandy and water. I also recommended him to take, every morning, a pill, composed of two grains and a half of blue pill, and the same quantity of compound rhubarb pill.

Jan. 10. I was sent for in the morning to see the patient, as he was labouring under a paroxysm. I found him in bed crying aloud from pain, with his legs tossed about involuntarily and spasmodically: the pain in the abdomen was intense, but was relieved on pressure: he had also incessant vomiting: his tongue was clean, his pulse 80, and moderate. I ordered the following medicines: ℞ Acidi hydrocyanici diluti m. v; aquæ menthæ piperitæ ʒj. Fiat haustus urgente vomitu sumendus. ℞ Liquoris opii sedativi m. xx; aquæ menthæ piperitæ ʒj. Fiat haustus secundis vel tertiis horis sumendus, donec dolores cessaverint. By the adoption of this treatment, the vomiting was allayed and the pains were in some measure controlled; and, in about a week, the system became tranquillized, although the spasmodic pains still recurred at intervals.

When these paroxysmal symptoms had abated, I directed my attention to the general health, and recommended the sedative solution of opium to be given when the pains returned, and also pills to be taken at night, sometimes consisting of extract of hemlock, sometimes of extract of henbane. I also prescribed a pill to be taken an hour before dinner every day, consisting of two grains of disulphate of quinine and two of rhubarb; and although his bowels had been habitually costive for years, I yet found that by the use of this pill, which he continued for several months, they were kept moderately open, and his appetite was preserved, until within a few weeks of his decease. I would here observe, that an habitual use of purgative medicines appears to me to be the reverse of beneficial; for their continued administration tends to depress the system, thus weakening the peristaltic action of the intestines and continuing the morbid condition which they are given to correct: whereas, on the other hand, tonics, judiciously employed, invigorate the system, promote the processes of absorption, assimilation, and defæcation, and thus render the use of purgatives unnecessary. Such certainly was the case in the present instance; for this gentleman informed me that he was previously in the habit of taking strong purgative medicines every day for years; and although he frequently asked me to prescribe purgatives, I uniformly refused to do so, and the opposite plan, which I adopted, was attended with alleviation.

In about six weeks from this period, the patient, finding that the spinal symptoms were not removed, was induced to call in consultation with me, a gentleman who had devoted much of his time to the special study of spinal complaints, and who recommended the use of the prone couch, the occasional administration of croton oil, and the attention to the general health by the means already adopted. This plan was therefore followed for some months, with the exception of the use of the croton oil, the first doses of which caused such excessive disturbance of the system, that it was necessarily discontinued. In addition to this treatment, two issues were made with potassa fusa, one on each side of the lumbar vertebræ, which issues were kept open for upwards of two months, but without any benefit; indeed the patient sometimes imagined that they increased, or even originated, the violent spasmodic pains of which he still complained, and which shot from the back to the abdomen, and also proceeded from the lower extremities towards the trunk. I therefore allowed the issues to heal.

On the 11th of July, he was seized with erysipelas of the head and face, from which he recovered by the adoption of the usual remedies. After this attack, however, he became decidedly weaker; he was unable to leave his bed, although he still retained the use of his upper extremities, and the full possession of his intellectual faculties; his appetite also improved, but the spasmodic pains again become most violent and agonizing. Various narcotics were employed to allay these sufferings, but with only partial success. Battley's solution of opium, pills containing one grain of opium, and pills containing one-third of a grain of hydrochlorate of morphia were repeatedly given, and without producing either head-ache or costiveness, although he took sometimes as much as four grains of opium in one night.[1] Large bed-sores now appeared on the lumbar region and on both his hips, and he gradually sank from exhaustion, and died without pain on the 6th of October, 1847.

Post-mortem examination of the Spinal Cord, thirty-three hours after death; weather cold. The spinal canal was laid bare from the first cervical to about the third lumbar vertebra. The spinal cord, invested by its membranes, presented no unusual appearance, and was removed for farther examination. On opening the dura mater, and afterwards laying open the arachnoid coat and pia mater, a large part of the cord was found in a state of complete softening, the ramollissement being most remarkable from opposite the seventh cervical vertebra to the cauda equina, and presenting the appearance of a diffluent pulp, of about the consistence of thick cream. Between the seventh cervical vertebra and the foramen magnum, the cord was not so soft, and its consistence increased as it approached the brain.

Remarks. The symptoms, exhibited by this case during life, agree very completely with those described as characteristic of softening of the spinal cord. Dr. Abercrombie, in his "Pathology of the Brain and Nervous System", relates five cases of this affection, but none of his cases are exactly similar to that now described. It will be observed that the softening commenced at about the seventh cervical vertebra, and extended to the cauda equina; hence the spasmodic pains of the abdomen and the vomiting, also the convulsive movements, the loss of voluntary motion, and the anæsthesia of the lower extremities: while the greater consistence of the upper part of the cord explained the fact, that the power over the upper extremities was retained till a very late period.

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[1] The toleration of opium, under certain diseased conditions of the system, is quite extraordinary. In a case recently attended by myself, in consultation with my friend Dr. G. O. Rees, the patient, who was suffering from acute rheumatism, was ordered to take two grains of opium every four hours, and afterwards, one grain of hydrochlorate of morphia at intervals of six and eight hours; and although this system was followed, at intervals, for upwards of a fortnight, it did not produce the slightest ill effect. The patient was a young lady, and had never before taken opium.

INTESTINAL OBSTRUCTION GIVING RISE TO SYMPTOMS SIMULATING THE PAINS OF LABOUR.

By ALEXANDER KNOX, M.D., Physician to the Dispensary, Strangford, County Down, Ireland.

Early in the summer of 1847, an application was made to me to visit the sister of a small farmer, who was stated to be suffering from a "*stoppage*", and to be in great danger, as scammony, castor oil, jalap, croton oil, with other purgatives and aperient injections, had been administered without effect. I found the patient in bed, somewhat flushed and heated, but the symptoms of acute abdominal inflammation were absent. She was, however, suffering intense agony at intervals of a few minutes, accompanied by great expulsatory efforts of the abdominal muscles, very closely resembling the regular pains of labour. The history of the case, however, as well as the character of the patient, who was not married, led to the conclusion, that I had not an uterine affection of any description to deal with—an opinion which I confirmed by examination. The abdomen was not tympanitic, but enlarged, and presenting to the touch something of a feeling of solidity. Connecting this with the expulsatory efforts before-mentioned, I was led to form the opinion, that there was obstruction arising from some solid body impacted in the alimentary canal, causing a reflex excitement of the abdominal muscles, which were thereby strongly stimulated to get rid of the source of irritation. The presence of one of those enterolithes, or intestinal concretions, so well described by Good, and more recently by the younger Monro, whose descriptions are chiefly drawn from the observations and specimens collected by his father,[1] suggested itself. Having oiled my hand, I introduced it as far as possible into the anus, for the purpose of exploration, when I detected some firm bodies completely plugging up the rectum, and succeeded in removing a number of them, some entire, and others broken down by the fingers and the shank of an iron spoon, in the process of extraction. They were of a spheroid form, and each about the size of a small apple, and of a deep grass-green colour, and firm tenacious consistence. Having hooked out as much of the entire mass as I could with my fingers, to the great and immediate relief of the patient, I administered a large emollient injection with Read's syringe, which was then perfectly effectual in unloading the lower bowels, although it had produced no effect when previously employed. A course of enemata and gentle aperients left the patient, within a week, perfectly restored to health. I naturally felt curious to ascertain the composition of these green balls, to which I had never seen anything similar. I found them, by breaking one or two of them down on a clean towel, to consist entirely of green vegetable matter, firmly agglutinated with the natural mucous excretion of the intestines. When this connecting medium was removed by frequent ablution, the entire residue was found to consist of the fibres and minute fragments of a green vegetable substance, which, on farther

[1] Cyclop. Prac. Surgery, Part I.

examination and inquiry, I found to be that of the early cabbage, which had then come into season; and, as there were no potatoes at that time, had, together with bacon, constituted the principal part of the patient's food for several days previously. Not the slightest trace of bile was apparent in the entire mass; nor, in fact, was there anything which I could detect, besides the vegetable matter alluded to, and the mucus, which formed the cementing medium. Denman, under the appellation of *ball-stools*, describod bodies similar as to form and size, but totally differing in composition, and points out the necessity of removing them by raking, as they cause extraordinary action of the intestines, and pain, periodical in its returns, and violent in a degree. In the present case, as the strongest purgatives and repeated injections had failed to give to the peristaltic action of the bowels a sufficient stimulus for their expulsion, it is manifest that if mechanical relief had not been afforded, or had been too long delayed, a dangerous and perhaps fatal attack of inflammation must have followed. The ball-stool, according to Denman, if proper and timely means are not used, sometimes proves fatal, by bringing on a sphacelation of the parts.

Strangford, Ireland, August 1850.

CASE OF COMPLETE PARALYSIS OF THE MOTOR OCULI OF THE LEFT SIDE;

DEPENDENT UPON ANEURISM OF THE LEFT POSTERIOR COMMUNICATING ARTERY.

BY CHARLES J. HARE, M.D.Cantab.; Licentiate of the Royal College of Physicians, Assistant-Physician to University College Hospital.

Aneurisms of the cerebral arteries are of sufficiently rare occurrence to make a record of the symptoms to which they have given rise, and of the pathological appearances accompanying them, both desirable and interesting; and as, in the case which has recently fallen under my notice, the peculiar position of the Aneurism gave rise to some phenomena during life, and to some circumstances in the mode of death, which, together, tended to throw light on the diagnosis of the particular lesion present, I have thought that the following details might not be unacceptable.

Case. Rosa H., æt. 18, unmarried, first came under my care as an out-patient at University College Hospital, April 18, 1850. By occupation a milliner, working principally at a house of business, and consequently much confined in-doors; hours late, especially during the London season, when, often, she did not get home till from 9 to 11 o'clock at night: a skilful and industrious worker; of regular habits; had sufficient food and clothing. For some time past—about a couple of years—she had resided with her mother in their present lodgings, a front room, second floor, in an apparently healthy situation; the room is of moderate size, airy, not damp. Stature shortish; moderately stout; conformation good; complexion rather pale; hair dark brown; pupils

hazel; habitual state of mind said to be, both by herself and friends, very cheerful and hopeful, but her temper naturally hasty and passionate. Her cast of countenance, however, did not, when I saw her, indicate a cheerful disposition. Her father died of "decline" (had bad cough, etc.), after an illness of seven years: her mother, for two years before, had at times been under the care of a physician-accoucheur for some "internal" (probably uterine) disease. Had five sisters and one brother, none of them strong, though none absolutely ill; several of the sisters, one especially, are subject to headaches; two of them, whom I saw, were anæmic. Her mother had lost six other children, but none of them, so far as was known, from cerebral disease. The patient had usually enjoyed pretty good health, and had not been laid up with any disease or illness which she could remember, till the end of June 1848, when she was attacked with "brain fever." She stated that the attack commenced suddenly with pain over the whole head, very severe, so as to make her scream. From her mother's account, it appeared that she was not confined to bed during the first week of her illness, that is, while she remained at home. She was, however, excited in her manner; much excited by any little event in-doors, or by what was passing in the street; was violent, destroyed various articles, wasted much food, while, at the same time, she eat voraciously; she complained much of coldness of the feet and legs, and, to ease this sensation, attempted to, and actually did, pour some boiling water over them. After having been thus ill at home a week, a certificate, which I saw, and which stated "that she was not fit to be left where she could not properly be watched and attended to, as she required restraint for the present", was written by Mr. Collins, who attended her, in order to procure her admission into the St. Pancras' Infirmary. She was placed under restraint while in the Infirmary, and remained there altogether two months; but it was fully three months from the commencement of her illness before she was able to get about; and for several months she was not able to work. For some time after her admission into the Infirmary, it appears that she was delirious, and for nearly a month or quite that time she was unable to recognise individuals around her. Her head was shaved once, and a lotion was applied to it; she had two blisters to the back of the neck (kept open), but was neither bled, cupped, nor leeched; she did not remember that her gums were made sore. No cause for the attack is known. When she recovered, she worked at millinery, as already stated.

She had never been so well after this attack as before, though she had not since suffered from any serious illness, up to the time of the attack for which she sought advice at the hospital. As regards her disposition, she was naturally a proud girl, and in temper was hasty and passionate; her *temper* improved after her illness, (that is, she was less passionate), but she became more "spiteful" from any trifling cause, than previously. There was also this peculiarity—that she would sometimes play with children *as a child*, not as a girl of her years; so that her sister has remarked to her, "Well, I think you can't be right in your mind." Formerly she was never subject to headaches, but since her illness had been much troubled with them, especially across the forehead, sometimes at the vertex, less frequently about the occiput; the pain being heavy and very severe. These attacks became more and

more frequent, besides being more severe: at first she would be a fortnight free from them, but more recently, and especially within the six months before I saw her, they had been much more frequent, so that she had not been a day free from them. Occasionally she had vertigo; and she stated, that about a month or a little more, previously to my seeing her, on returning home from her work, about 11 P.M., (after a hard day's work at sewing), she would have fallen in consequence, had she not been with a young friend who supported her; she was, at the time, very pale. Since her illness also, when she was at home during the daytime, or when she returned home from her work in the evening, she often used to lie down, owing to headache. One of her sisters, who slept with her last summer, stated (without the question being put) that she then always preferred lying with her head *high*, and that she was a light sleeper, easily disturbed. Her mother however said, that of late, when she lay down during the daytime, she evidently preferred having the head rather low. She never had any fit, nor loss of consciousness, nor paralysis of any part, nor numbness or tingling in the arms or legs.

On Thursday, March 28th, she was at work, and felt as well as usual. On Friday, the 29th, she continued at work, and did not remark anything unusual till the evening, when she found that the sight of the left eye became dim, as if there were a mist before it; there was, however, no double vision, nor has there been any since. At the same time, the left upper eyelid became partially closed, but not entirely so; this was noticed at the time by her fellow work-people, and mentioned to her. I understood her to say also, that the eyelid became entirely closed at a later period of *that* evening, and continued so; but on this point I am not quite certain.

During the ensuing week she continued at her work, notwithstanding the complete ptosis of the left side, for which, however, she did nothing, with the exception of applying some lotion without benefit. On the Friday or Saturday following, (April 5th or 6th), she came to University College Hospital without a letter of recommendation, but saw the resident medical officer, Mr. Clover, who ordered her to apply three leeches to the left temple; they were not put on, however, till the Saturday evening, (April 6th), and only two of them took. Next day (Sunday) morning, the eyelid was *partially open*, but it again closed entirely in the evening, and *never opened again* up to the time when I saw her. On that Sunday she vomited two or three times, and afterwards also, (before I saw her); but no notice of the circumstance was taken, as she had previously been subject to sickness occasionally, when she had the headaches. Before her illness in 1848, and indeed when a child, she not unfrequently vomited, which was often ascribed to her eating much sweets, of which she was particularly fond.

On Saturday, April 13th, she again applied at University College Hospital, and was ordered a saline mixture, with two doses of pilula rhei cum hydrargyro, which were again repeated on the 25th. It was on Thursday, April 18th, that I first saw her, and finding the case to be an interesting one, and serious also in its nature, I asked her to come the following day, that I might take more accurate notes than I then could, when occupied in seeing the out-patients generally. The following notes therefore refer to her state on Friday, April 19th.

There was nothing unusual in her attitude, but she had the appearance of a person somewhat languid and fatigued; the expression of her countenance was rather heavy; her temper had not altered of late, but her spirits were decidedly worse than usual; her mother, however, afterwards told me that they even then still continued good. She slept very indifferently, the sleep being often interrupted by headache; and she said that she often did not get an hour's rest all night in consequence; she did not dream; was not so strong as formerly; suffered from much lassitude. Colour of skin generally pale; moderate amount of fat; no anasarca.

The eyebrows were equally arched, and of equal height. There was *complete* ptosis of the left upper eyelid; by no effort of the will could she open it in the least. When she voluntarily closed the right eye, the left eye appeared the more prominent, in consequence of slight œdema of the left upper eyelid. It was doubtful whether the left eye-*ball* were more prominent than the right. The left upper eyelid was a little redder —deeper flesh-coloured—than right. There was some epiphora of left eye; no redness of conjunctiva. When the left eyelid was raised, the eyeball was seen to be everted to the left side (outwards); so that when the right eye was directed exactly forwards, the axis of the left pointed outwards at an angle of 60°. She was unable to move the left eyeball in the least, either upwards, downwards, or inwards, but could turn it quite readily to the outer angle of the eye; it was therefore only when the right eye was moved to its inner angle, that the axes of the two eyes were in the same direction: by the greatest effort she could not direct the axis of the left eye forwards—it still looked outwards. By noting the position of any given mark on the iris, the following phenomena were observed. When she was told to look *downwards*, the right eyeball obeyed, of course, the will; the axis of the left eye, however, did not in the least alter its direction, but the eyeball was nevertheless *rotated* on its own axis, to the amount of about one-sixteenth of an inch, in such a direction that its outer part became more superior, and its superior more inward; its motion therefore being outwards, upwards, and inwards, (owing to the action of the superior oblique muscle). *No* motion however in the opposite direction took place, when she attempted to look upwards (owing to paralysis of the inferior oblique); but the left eye remained perfectly motionless, while the right one obeyed volition. The right iris acted well under the stimulus of light; the outer part of the iris was, however, observed to be *rather* broader than its inner part. The *left* iris did not act at all, either under the stimulus of light, or consentaneously with the motions of the other eye: the pupil was considerably dilated, but unequally so, the iris being considerably narrower at its upper and inner angle, than at the rest of the circumference, where its width was uniform, though considerably less than that of the right iris; the left pupil therefore was uniformly nearly two-thirds more in diameter than the right one, with the exception of that diameter from its upper and inner to its outer and lower angle, where it was nearly double that of the right pupil. She complained of having considerable pain in the left eyelid of an aching character, and sometimes of shooting pain in it.

I observed no derangement of intellect; she answered all my questions quite accurately, so far as could be judged. There was no paralysis of

any part, beyond what has been already stated, nor was there any derangement or perversion of any of the senses, except a rather considerable dimness of vision in the left eye, so that she saw objects very indistinctly when the right eye was closed. Her appetite was indifferent, and had been so for three weeks before. She had never been subject to any cough, even on taking cold; had a good and powerful voice for singing, and could sustain her notes for a considerable time. The catamenia were usually quite regular and sufficient; her mother subsequently told me, that when the leeches were applied on the 6th of April, the catamenia were present, but stopped rather suddenly afterwards. Four leeches were ordered to be applied to the left temple.

It would appear, from some erroneous statements which she made after she returned home on that day, that she must then have wandered somewhat in her mind, at least for a while; but otherwise, her manners did not seem different from usual, with the exception of her being rather impetuous while the leeches (of which three took) were being applied. Her mother stated, too, that she looked paler, and that her features appeared "drawn". The headache, of which she complained, continued, not being relieved by the leeches. Frequently after the ptosis took place, she had requested her mother, in order to relieve the headaches, to tie her head as tightly round as possible with a handkerchief, and sometimes she wished this to be done as often as three or four times a day. The last time her mother did this for her, was on the Thursday evening.

On the Friday night she did not take anything likely to disagree with her; she had no beer for supper. On the Saturday morning, she was up at 6 a. m., to make some breakfast for herself and her sister (who was going to her work), but she afterwards went to bed again. During the forenoon, she did not complain of anything unusual. About 1 o'clock, she was lying on the bed, and had been speaking to her mother within two or three minutes, when her mother, happening to look towards her, saw her head drop. Her face and neck became very red, and "*the left eye was as wide open as the other, and continued so*". Mr. Welch, surgeon, who lived near, was called to see her, and immediately attended; and he has assured me that the eye was quite open when he saw the patient,—thus confirming the statement of the mother. The attack was unaccompanied by any scream or struggling; there was only a slight twisting of the left hand and of the head; the lower limbs are said not to have moved at all. Her face then turned deathly, and she died within ten or fifteen minutes from the commencement of the attack.

Post-mortem Examination, April 23, seventy-five hours after Death. Weather moderately dry; average temperature of preceding three days 47°; but the body had been kept in a room in which the family partially lived, during that time.

Rigor mortis continued in all the limbs, upper and lower, perhaps slightly more, however, in the legs than in the arms. When I first saw the body, about two hours after death, the upper extremities were supple, but rigor mortis was very distinct in the legs—in both equally.

A well formed body, rather large chest for size of person: no emaciation: fat under integuments from half to five-eighths of an inch in thickness; color of skin pale; cutaneous veins not unusually marked;

some purple discoloration at posterior part of body; no apparent decomposition had commenced; no œdema; color of muscles darkish.

Neither eye was *completely* closed; one eyeball was not more prominent than the other; the left pupil was very slightly more dilated than the right one; neither of them was more dilated than natural.

Chest. The lungs were perfectly healthy; not a single tubercle was discovered; no unusual redness of bronchial mucous membrane. The heart was of apparently natural size and weight; the right side contained dark coagula; no disease of valves; no disease of the aorta, nor any atheromatous deposit in its coats.

Abdomen. Stomach natural in position, shape and size: it contained fully six or seven ounces of a thickish fluid, like gruel or arrowroot; its mucous membrane was of an ash grey colour and very much softened, but there were no ulcers. Intestines not opened throughout; where opened, they presented nothing anormal. Spleen of very dark colour; surface a little corrugated. Liver of natural size; general color dark purplish; on closer examination it presented tolerably well marked hepatic congestion. There were no traces of inflammation or other disease of the peritoneum.

Both kidneys were of a dark reddish purple colour throughout their whole substance; cortical and tubular portions equally so; no granular appearance; the capsule came off without tearing the substance. Uterus of usual size, and apparently of natural consistence. One ovary (I think both ovaries) contained two or three small cysts filled with a serous looking fluid. One of them contained a false corpus luteum.

Brain. The vessels of the dura mater were large; some dark fluid blood escaped from the torn vessels. The dura mater itself was very opaque, and its surface presented a somewhat opalescent appearance; the small vessels were minutely injected. No enlargement of the Pacchionian bodies. There was no opacity of the arachnoid covering the superior parts of the hemispheres. Both the small and large vessels of the pia mater were congested, as well over the anterior as over the posterior part of hemispheres. The general appearance of the brain, as seen *in situ*, was of a pinkish cream colour, owing to this congestion of the pia mater; but scattered over the surface of the hemispheres—more over the right than left, and more along their borders than elsewhere—were patches of a deep red colour, varying in size from a pea to that of a shilling, or still larger, and produced by a more considerable injection of the small vessels of the pia mater than existed over the surface generally. Over the convolutions situated in the longitudinal fissure between the hemispheres, these red patches were still more abundant and redder, than over the superior cranial aspect. There was very considerable congestion of the whole of the pia mater at the base of the brain, and there were also patches of redness similar to the above, but much larger; while, along the posterior half of each anterior lobe, the pia mater was of one uniform deep red colour.

At the base of the brain, *under* the arachnoid, there was a considerable clot of blood, most abundant from the commissure of the optic nerves, backwards over the pons Varolii, and on each side of the medulla oblongata; the clot also completely filled up the fourth ventricle, so as to separate the medulla from contact with the cerebellum by a distance

of half an inch; the clot in the fourth ventricle was of a dark purplish black colour, and of the consistence of jelly, and, from its position, must have caused considerable pressure on the respiratory tract. In each lateral ventricle, there was a little bloody serum, with a very small quantity of darkish coagulum in one of them; the septum between the lateral ventricles was broken down. The substance of the brain, and especially of the corpora striata and optic thalami, was somewhat softer than natural; but there was no clot in any part of the substance of the brain itself.

Near the anterior extremity of the left posterior communicating artery, and at a short distance from its junction with the carotid, that vessel (the posterior communicating artery) became suddenly dilated into an aneurismal and somewhat egg-shaped sac, about six-tenths of an inch in length, and four-tenths of an inch in its transverse diameter, its long axis being in the direction of the vessel. It was partially filled with dark-coloured softish coagula; air could be blown into it both from the basilar artery, and from the left carotid: at its cerebral aspect, there was a small fissure in it, from which the blood had probably escaped.

The right third nerve presented a perfectly natural appearance: but the *left* one, where it crossed under the posterior communicating artery, just at the point of aneurismal dilatation, had been so pressed upon by the aneurism as to have become almost completely atrophied, the remaining fibres of it being seen to be spread out upon and in a manner incorporated with the walls of the aneurism. Beyond this part, the nerve reassumed its natural appearance. The aneurism likewise pressed, by its right border and superior surface, upon the left optic nerve, a little posterior to the commissure.

Portions of the internal carotid and of the basilar arteries were examined under the microscope; both these vessels were free from fatty degeneration, and there was no atheromatous deposit in either: in one of them, two or three small scales of cholesterine were detected. The arachnoid covering was considerably thickened, and more opaque than natural.

Remarks. The most remarkable feature presented by the case, when I first examined the patient, was the complete paralysis of every part supplied by the left motor oculi, while the functions of the other nerves appeared altogether or almost altogether unimpaired. She had not the slightest power of raising the left eyelid; the paralysis of the superior, internal, and inferior recti of the same side was shown by the utter motionlessness of the eye when she endeavoured to move it upwards, inwards, or downwards; there was an entire absence of that rotation of the eye which is produced by the action of the inferior oblique; while the iris, being likewise supplied by filaments from the third nerve, was dilated and immoveable. On the other hand, the external rectus (supplied by the sixth nerve), and the superior oblique (by the fourth), continued to perform their duties; the action of the former, not being counteracted by that of the internal rectus, caused a permanent outward squinting of the eye, while the rotation described in the notes of the case showed the persistence of the functions of the latter. The functions of the fifth and seventh nerves appeared likewise to be unimpaired. Accom-

panying the paralysis of motion, however, there was a decided impairment of vision of the left eye, which might depend either upon the dilatation of the pupil, or upon some affection of the optic nerve, or partially upon each of these causes. The amount of dimness of sight was, however, such as to lead me to suppose that the optic nerve was, to a slight extent, probably involved by the same cause which gave rise to the paralysis of the third. With reference to the condition of her sight, it is worthy of remark that there was not, when I saw the patient, nor had there at any time been, even when the attack first came on, any double-sight—which is a symptom often accompanying paralysis of the motor oculi.

From a consideration of the symptoms which presented themselves, it appeared probable, that the lesion of the third nerve existed posteriorly to its point of division into two branches within the orbit; for had the cause existed within the orbit, one branch might have retained its functions while the other was implicated;—ptosis, for example, might have existed without paralysis of the internal or inferior rectus or dilatation of the pupil; while, if a tumour had existed there, so as to have pressed upon both branches of the nerve, it would, probably, likewise have caused some protrusion of the eyeball, or would have involved also the fourth or sixth nerve. Again, as, in the cavernous sinus, the motor oculi is in such close relationship with the fourth, the ophthalmic division of the fifth, and the sixth nerves, had the paralysis depended upon a growth, or other disease, within that part, it is very likely that in this case too, some one or other of the neighbouring nerves would also have been involved. On the whole, therefore, the probability was that the disease was situated between the cavernous sinus and the crura cerebri, or within the latter.

The history of the patient, in conjunction with her present attack, seemed clearly to point to a chronic cerebral affection of some standing. Two years previously, she had suffered from an attack termed at the time, "Brain-fever", and during which she certainly was so delirious as to require some restraint; since then, her health had been worse than before, a change in her disposition had taken place, and in her manners she was more childish than formerly. She had also been subject to gradually increasing headaches, from which, for six months before her death, she had scarcely been a day free; and vertigo was another of her symptoms. All these tended to make the prognosis, which, in complete paralysis of the third nerve, is generally unfavourable, peculiarly so in this case; but they were not sufficient to point out the exact nature of the lesion.

One of the most remarkable circumstances which occurred in the course of this case, was connected with the mode of death. From the time when the ptosis first came on, up to the period of the fatal apoplectic seizure, the paralysis had been constant, with the exception of the day after the first application of the leeches to the temple, when she was enabled partially to open the eye, though the symptoms soon after returned as before. Immediately, however, that the apoplectic stroke occurred, the left eye was observed to be quite open, and the squinting ceased; nor did Mr. Welch, who was immediately called in, and who remained with her till she died, observe any notable difference in the appearance of

the two eyes, so that the pupil must have regained its contractility at the same time. These circumstances, together with the previous history of the patient, the symptoms she presented, and the temporary relief afforded by the abstraction of blood, led me to conclude that the paralysis had most probably been caused by the pressure of an aneurism upon the third nerve, and that its rupture had simultaneously produced the apoplexy, and, by diminishing the bulk of the aneurismal tumour itself, had allowed the nerve to reassume its function. The post-mortem examination, in which I was kindly assisted by my friends Dr. Jenner and Mr. Welch, confirmed the opinion I had expressed; for we found an aneurism of the left posterior communicating artery, fully half an inch in length, very considerably compressing the motor oculi of that side, without apparently implicating any other part except by pressing slightly upon the optic nerve, just posteriorly to the commissure. In a case of paralysis of the third nerves, recorded by Mr. Brown in the *Dublin Quarterly Journal* for May, 1849, in which both pupils were dilated, though unequally so, they remained after death as fully dilated as during life. This, indeed, is the rule in such cases; but, in the present instance, the difference in the size of the two pupils, which before had been so great, was scarcely perceptible, owing to the cause of the paralysis having been removed just prior to the patient's death. Amongst the post-mortem examinations which I have made, or at which I have been present, the only instance of aneurism of the cerebral vessels which I have met with was in a man, aged 49, who died in University College Hospital under the care of the late Dr. A. T. Thomson, and who, previous to admission, had had a fit, accompanied by paralysis of the left side and dilatation of the right pupil. He survived a fortnight; and, after death, the anterior lobe was found much softened, there being also a slight effusion of blood into one part of it; the basilar artery was opaque, hardish from bony deposit, and distended with blood; there was an aneurism of the right middle cerebral artery, just where it lies in the fissure of Sylvius, about the size (or nearly so) of a nutmeg, with one or two smaller aneurisms of the same artery; the left middle cerebral artery also formed an aneurism, not globular like the other, but consisting rather of a general dilatation of the vessel (to the thickness of an ordinary quill), and extending from near its commencement to its great curve, that is, for about the length of an inch; from this some enlarged branches proceeded into the substance of the brain. The coats of the cerebral vessels were, in this case, very much diseased, and there was also ossific deposit in the arch of the aorta, and in other arteries; but in the case of Rosa H., not only were the aorta and larger vessels healthy, but there was neither any ossific nor atheromatous deposit in the cerebral arteries, nor did they show any traces of fatty degeneration, so that the formation of an aneurism was the more remarkable.

The post-mortem examination also fully accounted for the very rapidly fatal termination of the apoplectic attack; for the blood was so effused at the base of the brain, and the quantity in the fourth ventricle was so considerable, that it must necessarily have caused very great pressure upon the respiratory tract.

9, Langham Place, August, 1850.

BIBLIOGRAPHICAL RECORD.

Researches on Magnetism, Electricity, Heat, Light, and Chemical Attraction, by Karl, Baron von Reichenbach. Translated by W. Gregory, M.D., Professor of Chemistry in the University of Edinburgh. pp. 455. London: 1850.

It was well said by the late Rev. Sidney Smith, that one of the rarest sorts of understandings we meet with in this world, is an understanding fairly and impartially open to the reception of truth, coming in any shape and from any quarter. The minds of men are so hampered by prejudices, and so occupied by preconceived notions, that it is quite the exception for a new and startling discovery to meet with fair and impartial investigation. Doubtless, there are two causes which contribute materially to close the outlets of men's charity; namely the charlatanism which almost always becomes mixed up with things new and remarkable, and the credulity and love of the marvellous which causes that which is really true to be distorted and exaggerated, so as not to be recognisable, except at the cost of tedious and wearisome labour, and much stripping off of fictitious attire. The expression 'naked truth' is more forcible than is commonly supposed; for it is quite the exception to behold truth in all the beauty of her fair proportions—simple and unadorned.

The present publication is announced as the first volume of a work in which the whole of the observations made up to this time by Baron von Reichenbach on the subject of which it treats, are to be placed on record. It is divided into two parts. Of the first, an abstract was published in 1846 by Dr. Gregory, which attracted a good deal of attention at the time. The second part consists of several sections: in the first, the author enumerates by name upwards of fifty new sensitive persons, of whom thirty-five were healthy and vigorous, yet among whom are to be found all degrees of sensitiveness; in the second section, the author institutes a minute comparison of the new influence, to which he applies the term *odyle*, with the known influences or imponderables, heat, electricity, and magnetism, and points out the points of analogy to these, and the differences which distinguish it from them. The third section of the second part is a minute description of the various forms, characters, and properties of the light said to be given out by magnets, and which is visible in the dark to the sensitive. It is said that fully one-third of people in general are more or less sensitive; and Dr. Gregory adds, that so far as his observations extend, this statement is not exaggerated. The last section is an application of these most remarkable phenomena to the explanation of the Aurora Borealis.

The mode of investigation pursued by the author, has been the inductive; the conclusions being deduced from carefully observed phenomena, varied by experiments of different sorts; and Baron von Reichenbach would seem, (by Dr. Gregory's account,) to be well qualified to conduct such an investigation. He is certainly earnest and indefatigable in his inquiries, and zealous in the cause he has undertaken.

The first point stated is one which is simple enough, and within the power of any one to ascertain; but on its existence depends much of the chain of reasoning which follows. "If we make downward passes with strong magnets, having a supporting power of about ten pounds, along the persons of from fifteen to twenty individuals, but without touching them, we shall always find one or perhaps more among the number affected thereby in a peculiar manner;" the impression is rather unpleasant than agreeable, and is associated with a gentle feeling, sometimes of cold, at other times of warmth, and resembles a cool or tepid *aura* or current of air, with, occasionally, a dragging or pricking sensation.

The passes should be made from head to foot, and not too quickly ; also, as near the surface as possible, and without contact with the dress.

This, we repeat, is in the power of all to ascertain, and when sensitive persons are found, some of the points next mooted can be put to the test. Baron V. Reichenbach found two persons who possessed the sensitiveness in an eminent degree, Mdlle. Nowotny, a patient subject to catalepsy, headaches, and spasms ; and Mdlle. Reichel, also subject to nervous attacks. There were other persons experimented on, but these two are especially mentioned, and the summary of the conclusions drawn from a great number of experiments is as follows : Those who are highly sensitive to this peculiar influence, are able to perceive luminous and flame-like appearances in the magnet ; the pole — M gave the larger, the pole + M the smaller flame in the latitude of Vienna ; according to the form and structure of the magnet, the flame divides at each pole into flames of iridescent colours ; the positive and negative flames show no tendency to approach each other or to unite. The flame may be mechanically bent hither and thither like common light, it gives out flame which is red, acts on the plate of the daguerreotype, may be concentrated by a lens, but has no appreciable warmth ; and there is a great resemblance in the flame and the light to the Aurora Borealis. We must say, that as the experiments seem to have been fair enough, and as a sufficient number of persons have taken part in them, (their names being mentioned), to be a guarantee to their honesty, we are neither disposed nor entitled to throw the book aside with premeditated incredulity as some seem to have done. It certainly deserves examination, and nothing in the first part of the volume appears to be incredible.

It would be improper to deny the possibility of the retina, when in a state of exalted sensibility, appreciating luminous appearances connected with magnetic currents ; on a large scale we are already familiar with them in the Aurora Borealis ; and that the retinæ of different individuals differ materially in their power of appreciation, is proved by the numerous persons who cannot distinguish particular colours : that such colours do exist is with them matter of faith, founded on the assertion of others. That the undulations of magnetic light are inconceivably more rapid than those of any of the ordinary luminous rays is probable enough, therefore they usually fail to produce an impression on the retina, but the reason that we do not see the calorific rays is the same ; and yet undoubtedly some persons can perceive them. Consequently it appears to us, that we are not warranted in denying, that the magnetic light may be visible to some persons under particular circumstances.

The experiments of Faraday, on dia-magnetism, have shown that the human body is not devoid of certain influences ; but Baron Reichenbach goes much further. "The adhesion of a living limb to a magnet, is a fact altogether unknown in the sciences of physics and physiology, and few persons have convinced themselves of it by actual ocular demonstration ; it is therefore necessary to explain and illustrate it in some degree. When Mdlle. Nowotny, in the cataleptic state, lay without consciousness or motion, but without spasm, and when a horse shoe magnet, capable of supporting about 20 lbs , was approached to her hand, *the hand adhered so firmly to it*, that when the magnet was raised or moved sidewards, backwards, or in any direction whatever, her hand stuck to it as if attached in the way in which a piece of iron would have been. She remained utterly unconscious all the time ; but the attraction was so strong, that when the magnet was moved towards her feet, farther than her arm could reach, she did not let it go, but although insensible, raised herself in bed and followed the magnet with her hand as far as she could possibly do ; so that the effect was the same as if some one had seized her hand, and by means of this, drawn, or bent the body forwards towards the feet. When the magnet was at length moved so far that her body could not be moved or bent further, so as to enable her to follow it, she was compelled to let it go, but remained then in the manner always observed

in cataleptics, fixed and immoveable in the position into which she had been brought." (p. 25.)

We have extracted the passage entire, as in a work of this kind, (which is as full of novelties as a horticultural exhibition at Chiswick,) it is dangerous to trust ourselves to an attempt at rendering the author's meaning. We confess to have drawn *rather* a long breath as Mdlle. Nowotny was drawn up in the bed, and nearly pulled out of it by the magnet; and it was a relief to us to find that the latter catastrophe did not take place. We shall abstain from ridicule, which would be unbecoming; but we must confess, that as page after page announced phenomena which had never entered our imaginations, we involuntarily exclaimed, with Dominie Sampson, PRO-DI-GI-OUS!

The description given of this phenomenon by the patient herself, is, that she was conscious of an irresistible attraction which she felt herself involuntarily compelled to follow, and was forced to obey. It was an agreeable sensation, combined with a soft cooling breeze or *aura*, flowing downwards from the magnet on the hand, which felt as if attracted to it, and drawn forwards by a thousand fine threads. The whole was a peculiar, indescribable feeling, which, when the magnet was not too powerful, had in it something infinitely refreshing and agreeable. The same phenomena were subsequently observed in Mdlle. Reichel and also in M. Sturmann, so that the author is convinced of the fact, that in certain diseases, especially where catalepsy is present, there exists a decided attraction between the human hand and a powerful magnet. But it seems that the mutual reciprocity between such patients and magnets does not close here, they become as it were, apostles of the *aura*, and are so thoroughly imbued with it, that, inconvenient though it must doubtless be at times, they can, by holding knitting needles in their hands, convert them into magnets capable of attracting and lifting other needles. We are bound to say that, though the patients themselves and their physicians have asserted the possession of this power, the Baron does not admit its existence as an established fact.

We now come to a passage which we quote with some interest, because the feelings there described are similar to those which have been felt by ourselves at the clairvoyant juggles and other impostures that have from time to time been brought forward in London; and we are bound to say that, the majority of persons of authority in such matters, have shared those feelings with us. "I have mentioned above, magnetized water, which the patient instantly distinguished from ordinary water, even when she knew nothing of what had been done. *Nothing could be more repulsive to me than the reappearance of a thing apparently so absurd, the mere mention of which fills all chemists and natural philosophers with disgust.* But in spite of this prejudice, I could not deny, or annihilate to my own mind by denying, that which I saw before my eyes as often as I tried it; namely, that Mdlle. Nowotny always accurately, decidedly, and without one failure, distinguished a magnetized glass of water from one not magnetized; we cannot contend against the force of facts by any argumentation. I was therefore obliged to admit the fact, though I was unable to comprehend it. But when the same fact presented itself at a subsequent period in the cases of Sturmann, Maix, Reichel, and others, nay, when I saw it in some of these in a still higher degree, I relinquished my doubt and my resistance to a phenomenon, the actual existence of which admitted no longer of any rational doubt. The strangeness of the phenomena was yet to reach the acme of incomprehensibility; when it appeared, namely, that not only the magnet, but a mere magnetized glass of water possessed the power of carrying with it the hand of Mdlle. Nowotny." (p. 31.) A person who opened the book at this page would probably feel some surprise at this statement, but such was not our case; we had ceased to be astonished several pages before reaching this point, much in the same manner that the audience of a conjuror gradually exhaust all their stock of wonder, sink into a pleasant state of apathy, and are quite prepared for any-

thing; or like the sailor, who was *blown up* by an accidental explosion during a theatrical performance, but who, when he recovered his scattered senses, did not betray the least discomposure, being perfectly satisfied that it was a legitimate part of the performance.

Baron Von Reichenbach observing this aqueous attraction, and feeling convinced that (what he rightly calls) so *strange* a phenomenon could not exist isolated in nature, submitted all sorts of minerals, drugs, and other objects to the action of the magnet, and found that all of them immediately acted on the patient, just as the magnetized water had done, but with various differences in their mode of action. Some caused general spasms through the whole body, others only in the arm, others only in the hand, and so on, until some produced hardly any effect at all; and on further investigation it appeared, that all the bodies which produced these spasms were *crystallised*, and that the active group comprehended all single detached crystals, and those where the crystals, which if in groups, had their principal axis parallel, or nearly so. It further appeared, that when a rock-crystal was drawn from the wrist over the palm of the hand to the point of the middle finger, a pleasant *cool* sensation was produced; if drawn in an opposite direction, a warmth was perceptible; and this was performed on various persons, who, without the possibility of collusion, agreed in their account of the facts.

A very curious feature in this book, is the zeal with which the author seems to have endeavoured to unravel many stories of ghosts and supernatural appearances, by referring them to causes simple and within the power of all to test. We, therefore, at the sacrifice of some space, subjoin the full account given by him, of what would certainly appear to be as fair a ghost story as Mrs. Radcliffe herself could have desired, although the explanation does away with the supernatural character of the phenomena. We may also mention that Mdlle. Reichel accompanied the Baron to a cemetery, and there perceived on the graves, a delicate, fiery, breathing flame. On many graves this light was about four feet high, and when she thrust her hand into it, it was as if putting the member into a dense fiery cloud. The Baron remarks, that all who are to a certain degree sensitive, will see the same phenomena in cemeteries, and especially in the crowded burial-grounds of large cities. If the premises be correct, opportunities will not be wanting to prove the fact in our metropolitan church-yards, for the reeking mass of corruption which emits its pestilential vapours from too many of these, ought, according to our author, to exhibit one burning fiery flame extending from one end to the other.

"A case which occurred in the garden of the blind poet Pfeffel, has been widely circulated by the press, and is well known. Pfeffel had engaged a young Protestant clergyman, of the name of Billing, as amanuensis. The blind poet, when he took a walk, held Billing by the arm, and was led by him. One day, as they were walking in the garden, which was at some distance from the town, Pfeffel observed, that as often as they passed over a certain spot, Billing's arm trembled, and the young man became uneasy. He made inquiry into the cause of this, and Billing at last unwillingly confessed, that as often as he passed over that spot, he was attacked by certain sensations, over which he had no control, and which he always experienced where human bodies lay buried. He added, that when he came to such places at night, he saw strange (*Scoticè*, uncanny) things. Pfeffel, with the view of curing the young man of his folly, as he supposed it to be, went that night with him to the garden. When they approached the place in the dark, Billing perceived a feeble light, and when nearer, he saw the delicate appearance of a fiery ghost-like form hovering in the air, over the spot. He described it as a female form, with one arm laid across the body, the other hanging down, hovering in an upright position, but without movement, the feet only a few hands' breadths above the soil. Pfeffel, as the young man would not follow him, went up alone to the spot, and struck at random all

round with his stick. He also ran it through the spectre, but it neither moved nor changed to Billing's eyes. It was as when we strike with a stick through a flame; the form always appeared again in the same shape. Many experiments were tried during several months; company was brought to the place, but no change occurred, and the ghost-seer adhered to his earnest assertions, and in consequence of them, to the suspicion that some one lay buried there. At last, Pfeffel had the place dug up. At a considerable depth, they came to a firm layer of white lime, about as long and as broad as a grave, tolerably thick, and on breaking through this, the bones of a human being were discovered. It was thus ascertained that some one had been buried there, and covered with a thick layer of lime, as is usually done in times of pestilence, earthquakes, and similar calamities. The bones were taken out, the grave filled up, the lime mixed up with earth and scattered abroad, and the surface levelled. When Billing was now again brought to the place, the appearance was no longer visible, and the nocturnal ghost had vanished for ever. It is hardly necessary to point out to the reader what I think of this story, which caused much discussion in Germany, because it came to us on the authority of the most trustworthy man alive, and received from theologians and psychologists a thousand frightful interpretations. To my eyes, it belonged entirely to the domain of chemistry, and admitted of a simple and clear scientific explanation. A human corpse is a rich field for chemical changes, for fermentation, putrefaction, gasification, and the play of all manner of affinities. A layer of dry quick-lime, compressed into a deep pit, adds its own powerful affinities to organic matters, and lays the foundation of a long and slow action of these affinities. Rain-water from above is added; the lime first falls to a mealy powder, and afterwards is converted, by the water which trickles down into it, into a tallow-like external mass, through which the external air penetrates but slowly. Such masses of lime have been found buried in old castles, where they had lain for centuries; and yet the lime has been so fresh, that it has been used for the mortar of new buildings. The carbonic acid of the air, indeed, penetrates the lime, but so slowly, that in such a place a chemical process occurs which may last for many years. The occurrence in Pfeffel's garden was therefore quite according to natural laws; and since we know that a continual emanation of the flames of the crystalline force accompanies such processes, the fiery appearance is thus explained. It must have continued until the affinities of the lime for carbonic acid, and for the remains of organic matter in the bones, were satisfied, and finally brought into equilibrium. Whenever, now, a person approached who was, to a certain degree, sensitive, but who might yet be, or appear, in perfect health, and when such a person came within the sphere of these physical influences, he must necessarily have felt them by day, like Mlle. Maix, and seen them by night, like Mlle. Reichel. Ignorance, fear, and superstition, would now give to the luminous appearance the form of a human spectre, and supply it with head, arms, and feet; just as we can fancy, when we will, any cloud in the sky to represent a man or a demon."

The question of identity of odyle with magnetism and electricity is treated of at some length, and the author arrives at the conclusion that there is no identity between them. "As", says he, "we shall never be able to dispense with either of the words, electricity, or magnetism, so we shall never be able to do without the word odyle, or some equivalent term, on the adoption of which men may agree."

A very long and very elaborate inquiry is entered into respecting the colours and qualities of the odylic light. It is quite impossible for us to consider these, (or half the subjects of the work), *in extenso;* but, so far as we understand the author, there are a multitude of minute peculiarities in which the odylic light and odylic phenomena differ from those of magnetism, and there are others in which there seems a great affinity between the two; not the least is, that the odylic nature of the positive magnetic north pole of the

earth, that of the east and that of the ground, have a general character of agreement, in which they stand directly opposed to the negative magnetic south pole of the earth, to the west and to the heavens.

Meteorites are supposed to be of planetary origin, small stars in fact, revolving in their paths round the sun. There is no difference, says the author, between a planet and a meteorite except in size, and the law which presided at the formation of meteorites and fixed their structure and composition, presided also at the formation of our globe. Meteorites, it is well known, are metallic masses, mostly iron with nickel, cobalt, &c., but the author points out, as an essential feature, that in the large majority of meteorites the abundant iron is not in the form of irregular, accidental, and scattered portions, but a coherent network of cells pervading their mass, that, in like manner, the earth has an internal constitution resembling the meteorite, and that, in all probability, it is in this iron, that the magnetism of the earth resides. The Baron possesses, perhaps, the finest collection of meteorites in the world, and therefore his practical remarks upon them are interesting. It is not for us to say how far this idea respecting Terrestrial Magnetism may be correct, but it certainly is ingenious, and must not be lost sight of.

The author enters at considerable length into the question of the nature of the Aurora Borealis, and arrives at the conclusion, that the polar light is to be regarded as a vast manifestation of magnetic odylic flame, odylic vapour, and odylic light. That it has relation to terrestrial magnetism is now generally admitted; but whether the just explanation is that offered by Baron Reichenbach, or whether it depends on causes hitherto veiled from the knowledge of man, time, and further investigations will perhaps determine. However this may be, these observations may be considered as one link in that vast chain of inquiries which is coeval with the intelligence of man, and which, continually increasing in length, will terminate only with the existence of our race.

It has been reserved for Baron Von Reichenbach to explain that which has hitherto been supposed to rest on more poetic grounds. Poems have been written on the subject of A KISS, and its fascination described under every figure, and trope:—but we feel that we are rather trespassing on Mr. Dickens in at all alluding to the subject, for a *kiss* undoubtedly belongs to "Household Words". Be that as it may, we should not feel that we were discharging our duty towards our readers, did we not enlighten them as to the true nature and significance of that tenderest of all salutes. "The lips (says our author) are one of the foci of odyle, and the flames which our poets describe as belonging to them, do in fact play there. It may be asked, how can this be consistent with the fact that the mouth is negative? But, in fact, the two statements harmonise very well, for the kiss *gives* nothing, but rather *seeks*; strives after an equilibrium which it does not attain. It is not a negative, but physically, as well as psychically, its state is one of negativity". (P. 193.) How far this explanation will be acceptable, or how far it is consistent with experience, are points which it would not be decorous for us *ex cathedrâ* to decide. Our readers must investigate the subject, and test the phenomena for themselves.

If we have been almost tempted to mirth occasionally, the author must pardon us: for we would fain give him every credit for a strong desire to arrive at the truth. The very nature of the inquiry, to say nothing of the elaborate character of the reasoning, has prevented us from entering into a more detailed account of the subject, which could not have been done satisfactorily in ten times the space which we have at our command; but we are rather disposed to recommend the profession to read and reflect upon this work. That much which is stated is contrary to all accepted doctrines, is most true; but the experiments themselves are easy, and sensitive persons would appear to abound. It would, therefore, be an act of justice to a

conscientious writer, and moreover advantageous to science, if impartial and competent persons would submit his observations and experiments to the test of repetition on a large scale. The chaff would thus be separated from the corn, and the truth vindicated. We conclude by thanking Dr. Gregory for the able manner in which he has laid Reichenbach's researches before the scientific men of this country.

On Diseases of Menstruation and Ovarian Inflammation, in connexion with Sterility, Pelvic Tumours, and Affections of the Womb, By Edward John Tilt, M.D., Physician to the Farringdon General Dispensary, etc. London, 1850 : pp. 250.

There are two modes by which medical science advances ; the one, by the discoveries of individual minds, which stand out in bold relief from the level of the age in which they are made ; the other, by gradual and progressive improvements, resulting from the workings of the general medical mind upon particular subjects. The first class of discoveries makes individuals famous, the second distinguishes a medical epoch, or distributes reputation to a large number of its contributors. If we were asked to name a particular instance of progress, to which many minds have contributed equally, or almost equally, we should point to the supremacy now asserted for the ovaries in the female economy, and the development of Ovarian Physiology or Ovariology. It is only by an extraordinary succession of interpretations, that the hieroglyphical signs presented by the ovaries have been deciphered. Had all indeed been the work of one man, we do not hesitate to say, that it would have constituted one of the greatest discoveries ever made in physiological science. We may slightly indicate the steps of this great advancement. Nearly two hundred years ago, De Graaf explored those vesicles which have received his name. Before this time, an extraordinary adumbration had surrounded the ovaries. Von Baer, in our own day and generation, detected the ovules in the vesicles of De Graaf. The physiology of menstruation or ovulation, dimly hinted at by Everard Home and Cruikshank, and exhibited theoretically by Dr. Power, has been made out by the researches of Dr. Robert Lee and by MM. Gendrin, Raciborski, Pouchet, Bischoff, Chereau, and many others of all countries. Dr. Tyler Smith has investigated the influence of the ovaries upon pregnancy and labour, and has gone far to prove that in ovarian excitement we have the true cause of labour. Following Von Baer, we have a host of eminent names, who have contributed largely to the history of the development of the ovules, before and after conception. Amongst these, honourable mention must be made of M. Purkinje, who discovered the germinal vesicle, of MM. Coste, Rudolph Wagner, Wharton Jones, Schwann, Henle, Martin Barry, and numerous other scientific investigators of the highest rank.

We have said enough to vindicate the importance of Ovariology, if that were necessary. But many talented and industrious men have engaged themselves in the digestion of the results of these labours, and in the applications of our knowledge of the ovaria, to the contingencies of actual practice. Of these works, that by Dr. Tilt, now before us, is the most recent, and the most complete. It is, in many respects, similar to the treatise on the same subject, published in 1844 by M. Chereau, a highly talented physician and physiologist of Paris.

Dr. Tilt first demonstrates that which needs but to be mentioned to be accepted ; namely, that what are called the disorders of menstruation, as amenorrhœa, dysmenorrhœa, menorrhagia, etc., are in reality only the symptoms of certain morbid conditions of the general system, or of the generative organs ; in this category, he also, very properly, includes hysteria, chlorosis, sterility, etc. There can be no doubt, that to consider these disorders, and to treat them as substantive pathologies, instead of as symptoms, is to work confusion, and to do no little mischief.

Our author next proceeds to expound his views relative to the frequency and importance of Ovarian Inflammation, as a disease *per se*, and of the influence of the ovaria, as a cause of amenorrhœa, dysmenorrhœa, menorrhagia, hysteria, sterility, chlorosis, and other disordered conditions of the female generative system. These are in fact the chief objects of Dr. Tilt's work. It is our duty to inquire—how far he is correct in his views ?

The section which relates to the Different Modes of Ovarian Inflammation, is of considerable importance. It enters pretty fully upon the subjects of abdominal examination, vaginal exploration, and the combination of abdominal and vaginal exploration ; the exploration per rectum, and the combination of the rectal and vaginal examinations. Dr. Tilt dwells particularly upon what he terms the "double touch", a method employed by Recamier, and which consists in the introduction of the index finger into the rectum, and the thumb into the vagina ; but this, in our opinion, is only valuable in cases in which the ovary is displaced, or in which the pelvis is encroached upon by ovarian enlargement. Many valuable observations are made by the author respecting ovarian exploration and diagnosis, a confessedly difficult subject, and one which deserves great attention from the obstetric practitioner. In this part of his work, Dr. Tilt has introduced a very graceful eulogium of his teacher and friend, the venerable Recamier, with all of which we can sympathize, though we may not quite agree with the writer. The following sentence strikes us, for instance, as rather wide and large. "All the modern improvements in the treatment of diseases of women originated with Recamier, for he invented the speculum. . . . To him also we are indebted for the treatment of ulceration of the neck of the womb by caustic." In reply to this we would observe, that the speculum is a very ancient instrument ; and that Harvey described long ago a case of ulceration of the womb, in which he employed the speculum, and treated with caustic ! But though we are not exactly indebted to Recamier for the speculum, we owe to him, at least indirectly, some of the modern excesses both of speculum and caustic.

We proceed to consider Dr. Tilt's description of Acute and Sub-acute Ovaritis. We cannot do better than quote the author's own words.

"By *sub-acute* inflammation, as distinguished from *acute*, we do not so much imply a difference in the intrinsic nature of the morbid phenomena, as a limitation of the inflammatory action to certain distinct parts of the ovaries, as the ovarian follicle, and to portions of the ovarian tissue so small, that they give rise to little swelling, and to no febrile action ; and here we may point out, as peculiar properties of the sexual system in women, the liability to inflammation of certain portions of the generative apparatus, in which the others may not participate—a peculiarity to which the ovary is still more liable, on account of its complex structure.

"Sub-acute ovaritis, whether primarily developed as such, or supervening on the acute inflammation of the ovaries, is necessarily a chronic disease, from the circumstance of the ovaries being subject to a periodical augmentation of nervous and sanguineous excitement. Chronic ovaritis is always sub-acute; and as sub-acute inflammation of the ovaria is often present without being chronic, we have thought it best to adopt the appellation common to them both, instead of that generally made use of. Sub-acute ovaritis is by far the more common, and, therefore, we will first proceed to its investigation.

"It is evident, however, that in the determination of causes, in the symptoms, and in the treatment of these two diseases, we shall find a great similarity ; we shall also find that they may pass the one into the other, the sub-acute being exasperated into the acute, while acute ovaritis sometimes becomes sub-acute, or chronic, as it is then generally termed." (pp. 39-41.)

Dr. Tilt gives an interesting account of the Causes of Ovarian Inflammation, with which we cannot but entirely agree ; the chief are, excessive sexual intercourse, immoral practices, (which singularly enough, Dr Tilt calls "moral causes") suppressed menstruation, difficult parturition, inflammation

of the os and cervix uteri, gonorrhœa, etc. To these may be added, the application of caustics to the os and cervix uteri, and the frequent use of the speculum. We have seen several cases in which the use, or rather the abuse of the speculum, in leucorrhœal cases, had caused ovarian irritation and inflammation of a far more distressing character than the original disorder. Dr. Tilt adduces facts which bear out these remarks, and which are now almost universally assented to by the profession. He says, "We have heard of practitioners in this country, who submit their patients to speculum examinations daily—nay, twice a day! O tempora, O mores! With regard to caustics, it would be also useless to deny the evils produced by these when handled by imprudent or inexperienced men. Retention of menstruation has been produced by the cauterization of the external portion of the os uteri, adhesion not unfrequently having taken place between the external portion of the os uteri and the vagina, causing the close adaptation of the orifice of the os uteri to the sides of the vagina. It is then necessary to destroy the cicatrix, but that is the least part of the matter, the greatest difficulty in the treatment being to hinder the edges of the wound from again uniting, as in a case published by J. P. Frank. This has been shown by Dr. Bernutz, who, after alluding to the cause of retention here indicated, remarks, 'But these are not the only cicatrices produced by these cauterizations, of which so extensive a use is now made; the excretion of the menstrual flow from the neck of the womb is often rendered difficult, and sometimes impossible, by cicatrices (coarctations) situated at the inferior orifice of the os uteri, and even in the higher position of the canal.'—*Archives Gén. de Méd.* Feb. 1849." (Note, pp. 68-69.)

In some cases in which caustic agents have been used freely during pregnancy, the os uteri has been completely obliterated, and the uterus has been found hermetically sealed at the time of labour, so as to require operative measures.

We have carefully perused Dr. Tilt's chapter on the Symptoms of Sub-acute Ovaritis; and while we admit with him that ovarian disorder is more frequent and more important than is generally considered to be the case, we incline to the opinion that he has extended the term "inflammation", as we understand it, over too wide a surface. From the symptoms as described by Dr. Tilt, and from our own experience, we believe that many conditions which ordinary practitioners would not designate as inflammatory, whether acute or sub-acute, are included by Dr. Tilt in one general category. In fact, we entertain some objections to the term "Sub-acute Ovaritis" as not admitting of precise definition, and as quite capable of including states of the ovary, of perfectly different, or even opposite characters.

Our talented author speaks of the amenorrhœal, dysmenorrhœal, menorrhagic, and hysterical types of sub-acute Ovarian Inflammation. Now, in such a nomenclature, there is much that is striking and novel, but it is necessary to introduce certain qualifications. With reference to the amenorrhœal type", he observes, "When sub-acute ovaritis attacks the patient previous to or in the midst of the menstrual flow, it may be arrested or prevented, but an inflammatory tendency is thereby originated"; and again, "But if under the influence of the morbid stimulus, the ovaries draw to themselves the blood they usually cause to be propelled to the uterus, the disease may give rise to the local symptoms previously described, and may likewise be accompanied by chlorosis." Dr. Tilt, it will be seen, uses the word chlorosis as synonymous with amenorrhœa, which is not quite in accordance with our own opinions. Generally, chlorosis is a constitutional condition giving rise to amenorrhœa. It is only in rare cases, and very gradually, that amenorrhœa as a primary disorder, gives rise to confirmed chlorotic symptoms. Dr. Tilt very properly refers many cases of amenorrhœa to arrest of the development of the ovaries, but he also alludes to cases in which chlorosis, or amenorrhœa supervenes "in the midst of perfect health" in consequence of sudden suppression of menstruation accompanied by phe-

nomena which lead us to admit a high state of ovarian engorgement. Sub-acute ovaritis produces in these cases what an arrest of development produced in the first." With every respect for Dr. Tilt, it has seemed to us that in these cases, the suppression has been the cause of the congestion and inflammation, if such exist, and not the inflammation the cause of the suppression, as we should infer is Dr. Tilt's view from the first sentence on this subject. "When sub-acute ovaritis attacks the patient previous to, or in the midst of, the menstrual flow, it may be arrested, or prevented." The most common modes in which sudden suppression takes place is from cold, or mental emotion, but the suppression is too sudden to be referred to the intermediate production of sub-acute ovaritis. We incline to the opinion, that the suppression depends upon nervous rather than inflammatory conditions, and that the congestion of the generative system, which undoubtedly ensues in such cases, is produced by the suppression of the catamenial flow. When sub-acute ovaritis does cause amenorrhœa, it is, according to our experience, gradually produced, generally after the long persistence of dysmenorrhœa or even menorrhagia. Though on these points, we somewhat differ from Dr. Tilt, we nevertheless entertain a very high respect for his opinions.

In all that Dr. Tilt says relating to the dysmenorrhœal type of ovarian irritation or inflammation, we fully agree. We believe that the most frequent cause of this malady is to be found in the morbid states of the ovaria. In the main, too, we coincide with him in all that he says of ovarian menorrhagia, or excess of the catamenial secretion from excess of the ovarian stimulus. We also feel well assured, that much of hysteria depends, we would not say upon sub-acute ovaritis, but on the influence of Ovarian Irritation upon the emotions, and upon the ganglionic system.

In regard to the Treatment of Sub-acute Ovaritis, Dr. Tilt discusses *seriatim* the respective merits of local blood-letting, purgatives, injections, blisters, medicated unctions, bathing, etc. He also refers to the special treatment of what he terms the amenorrhœal, dysmenorrhœal, menorrhagic, and hysteric types of the malady under consideration. The observations respecting sterility deserve much attention; but, we think, they might have been extended with advantage. In conclusion, we strongly recommend Dr. Tilt's valuable treatise to the notice of the profession.

A Practical Treatise on Diseases affecting the Skin. By the late Anthony Todd Thomson, M.D., F.L.S., Professor of Materia Medica and Medical Jurisprudence in University College, and Physician to University College Hospital. Completed and Edited by Edmund A. Parkes, M.D., Professor of Clinical Medicine in University College, and Physician to University College Hospital: pp. 436, London: 1850.

The study and treatment of Cutaneous Diseases was one of Dr. A. T. Thomson's favourite pursuits; and he was engaged in the preparation of a treatise upon the subject for more than a year previous to his fatal illness. At the time of his death three hundred pages had been written and printed; and as it was necessary that the work should be completed, the task was undertaken by his nephew, Dr. Parkes, who most worthily occupies the post of Physician and Professor of Clinical Medicine in University College Hospital; and who, by his acquaintance with Dr. Thomson's opinions and methods of treatment in cutaneous diseases, was peculiarly well qualified for this duty.

Prefixed to the work is a memoir of Dr. A. T. Thomson, (written, as we understand, by his widow), which is a very interesting and instructive piece of biography. We conceive that the following sketch of Dr. Thomson's career will not be unacceptable to our readers.

Dr. Thomson was born in Edinburgh in 1778. His mother died when he was a year old, leaving him in such a feeble and precarious state of health, that he was consigned to the care of a female relative, who subsequently be-

came his step-mother. His father held a lucrative situation in the American post-office under the British government; but when the war broke out, he, in common with other American loyalists, resigned his situation, and returned to Great Britain, and lived in the vicinity of Edinburgh upon a small pension, with which he maintained and educated his family. Dr. Thomson received the rudiments of his education at the High School of Edinburgh; but the greatest part of his subsequent knowledge must have been attained by his own application. As his father's means would not allow him to educate young Anthony at the University, the ambition of the aspirant for medical honours was gratified in the following manner. He obtained, through the influence of his godfather, Anthony Todd, a clerkship in the Edinburgh post-office, which secured him a small salary, while it required but little mental application, and no great expenditure of time. By these means, he became a student of the University of Edinburgh; attended the lectures of Monro, Gregory, Black, and Dugald Stewart; and, not confining his thoughts to subjects purely medical, he joined the Speculative Society in 1798, where politics, literature, and metaphysics were discussed by Jeffery, Horner, Brougham, Lord Lansdowne, and others, who were destined to play a conspicuous part in the history of their country. Dr. Thomson left the University in his twenty-first year, and repaired to the great metropolis, where he commenced his professional career as a general practitioner. He established himself at Chelsea, where he remained twenty years; and, although his success was at first doubtful, he succeeded eventually in acquiring a very large and lucrative practice. During this period of his career, he honourably distinguished himself, not only by his zeal and assiduity towards his patients, but by his devotion to the science and literature of his profession, which at that time was too generally neglected. It was while engaged in the laborious duties of his profession, that he found time to compose some of those works which have gained for him an European reputation, viz., the *Conspectus Pharmacopœiæ*, which was published in 1810, and the *London Dispensatory*, which appeared in 1811. Public opinion has already affixed the stamp of its approbation upon these elaborate works; and those who have studied the immense mass of matter contained in the Dispensatory, will readily believe the statement of his biographer, that it was chiefly composed during hours snatched from necessary rest; and we are told that the author was in the habit of rising at five o'clock in the morning, to complete a portion of the work before the commencement of his professional duties. Ten editions of the Dispensatory have appeared; it has been translated into most of the Continental languages; it is used extensively in the great German universities; it has been circulated in America; and its utility has extended even to St. Petersburgh, from the Imperial Academy in which city Dr. Thomson received, in 1838, a diploma in acknowledgement of the great merits of the book. While he was writing these works, he was promoting the study of Botany, then very little understood or appreciated by the profession, by delivering lectures on the subject at Chelsea: and we are told that he was the first lecturer on botany, who ever addressed a medical class in this country. He also published some lectures on Botany, which obtained for him a considerable degree of reputation on the Continent, and gained him the acquaintance of De Candolle and Von Martius. Through his instrumentality, likewise, a Dispensary was established at Chelsea, of which he was appointed one of the medical attendants, and at which, we are told, he first became impressed with the great difficulties attending the diagnosis and treatment of the diseases of the skin, and resolved to pay especial attention to that department of medical practice.

In alluding to this most active and useful portion of Dr. Thomson's life, while he was in full and lucrative employment as a general practitioner—while he was writing those great works on which his fame is built—while he was lecturing on botany to a distinguished class of his professional brethren—while he was endeavouring to alleviate the sufferings of the afflicted poor—

we must not forget that he was also labouring, together with his friend Dr. George Mann Burrows, to elevate the rank of that class of the profession to which they both, at that period, belonged. He saw, what no enlightened man can fail to perceive, that the medical profession was in the most degraded condition in this country, and he sought to elevate it, not by the establishment of fictitious distinctions, but by the influence of education ; and he had the gratification of witnessing the partial fulfilment of his wishes by the passing of the Apothecaries' Act of 1815, which measure, imperfect and faulty as it undoubtedly is, has effected a most important and a most beneficial change upon the practice of medicine in this country.

In the year 1826, he left Chelsea, and commenced practice as a Licentiate of the College of Physicians of London : but we believe that his emoluments, in this new career, were by no means equal to those which attended his exertions as a general practitioner. He was the first professor of Materia Medica in University College, then the University of London ; was subsequently appointed Professor of Medical Jurisprudence in the same institution ; and, upon the opening of the University College Hospital, he was appointed one of the physicians of that establishment. He was also appointed Professor of Botany at the Pharmaceutical Society, and he held this appointment, together with the others just enumerated, up to the time of his death. During the whole of this latter portion of his career, he was distinguished by his exemplary punctuality in the performance of his multifarious duties. For several winter sessions, he lectured to the class of materia medica at University College at eight o'clock in the morning ; and, when he was upwards of seventy years of age, we have seen him perambulating the Botanical Gardens in the Regent's Park, at seven o'clock in the morning, and lecturing to his class with all the energy and enthusiasm of youth. To his habits of early rising, to his love of exercise, to his temperance, may be attributed the excellent health which he enjoyed for many years, although his constitution as a child was naturally delicate : but in the autumn of 1848, his health and spirits began to decline ; and, in the beginning of 1849, he was seized with an attack of bronchitis, for which he tried change of air, with temporary benefit. Another attack of inflammation, however, supervened, and he died at Ealing on the third of July, 1849, in the seventy-second year of his age, in humble submission to the will of Providence. We are happy to quote the following passage from his biography, as it appears to us to represent precisely what the character of a physician *ought to be.*

" So calm, so blessed were the last hours of one, who may truly be called a Christian Physician. A few words more may, perhaps, be permitted upon a character so exemplary. It was strengthened and guided by a sincere belief in Divine Revelation. His researches and attainments had confirmed his faith. It was his greatest pleasure, to refer to *design* as exhibited in the great system of nature. It was this pervading sentiment which ever accompanied him into the business of life, and which gave such mental dignity, and maintained such integrity and purity of conduct. The fear of God was ever before his eyes. The principles of his life were truth, charity, reverence ; and from these he departed as rarely as human frailty permitted. His nature was all nobleness and kindness ; he could not retain a resentment, nor cherish a meanness. It was this high moral tone which made him so valuable a model for the young practitioner, and so invaluable a friend, as well as instructor, to his pupils. It was this which procured him their respect, and brought them, unbidden, mourning to his grave. It was this which made him the friend of his patients ; it was this that bound his family to him, and which has left in their hearts a life-long sorrow for their loss. It was ever his opinion, that the study of medicine was one of the finest and most comprehensive of studies, and that it neither implies nor conduces to scepticism, but the reverse ; and his life, his death, proved the sincerity of this conviction. When, a week before his death, an alarming paroxysm of suffering occurred, he summoned

to his bed-side his youngest son, a youth of seventeen. He solemnly addressed him thus: 'Above all, keep the purity of your mind and heart. Be religious; receive the sacrament frequently; let your conduct be pure; your conscience unstained': and he repeated earnestly, 'And recollect, without religious faith this cannot be!'"

We may conclude this brief sketch of Dr. Thomson's life by stating, that he was of a most liberal and charitable disposition, and that he was especially benevolent towards the younger members of the profession, more especially those who had composed his class. "His pupils," writes one of them, "looked up to him with nearly the affection of sons; and, on many occasions, the parting from his class, at the close of the session, resembled more the separation of a family, than the temporary suspension of a course of academical lectures."

Dr. Thomson's Treatise on the Diseases of the Skin is a very valuable contribution to our knowledge of this important, but difficult department of pathology. It is evidently the result of great and extensive practical experience, matured by sound theory and excellent judgment. To say that Dr. Thomson has cleared up all the difficulties which beset the subject, would be to assert that he alone has succeeded in an attempt in which every one else has failed; but it must be admitted that, by the clearness of his style, the simplicity of his classification, and the accuracy of his diagnostic characters, he has removed many of the obstacles which formerly existed. He follows, to a certain extent, in his classification, the system of Willan, making, however, such alterations as the increased knowledge of facts, and the advanced state of pathology have suggested to his mind.

In his First Chapter, he treats of the Exanthemata, under which head he includes not only scarlatina and rubeola, but also variola, varicella, and vaccinia, together with frambæsia, and the petechial eruptions observed in typhus and typhoid fevers. All these are considered to be *febrile contagious diseases, non-recurrent, except in exceptional cases.*

In the Second Chapter, which is devoted to Febrile Contagious Diseases *capable of recurrence many times during life*, he treats of Erysipelas.

In the Third Chapter, among the Non-Febrile Contagious Diseases are included the different species of Porrigo, as P. Favosa, P. Lupinosa, and P. Scutulata, and Scabies.

In the Fourth Chapter, the Non-Contagious Febrile Diseases comprehend Erythema, Urticaria, Roseola, Miliaria, Pompholyx, and Pemphigus.

The Fifth Chapter treats of a great number of diseases very different from one another, but which agree in being Non-Contagious and Non-Febrile, *chiefly connected with, and characteristic of, Derangements of the Digestive, Assimilating and Secreting Organs.* These are divided into six orders: I. The Papular Eruptions, Lichen, Strophulus and Prurigo: II. The Pustular Eruptions, which include only Impetigo and Ecthyma: III. The Vesicular Eruptions, consisting only of Herpes, Eczema, and Rupia: IV. Squamous Eruptions, Psoriasis, Lepra, and Pityriasis: V. Tuberiform or Tubercular Eruptions, which comprise Lupus, Elephantiasis, and the Aleppo Evil: VI. The Hæmorrhagic Diseases of the Skin, the principal of which is Purpura. The other chapters treat of diseases which cannot be included in the former divisions; such as Ichthyosis, Pellagra, the Syphilitic Eruptions of the Skin, Acne, Sycosis, Mentagra, Lentigo, Ephelis, Chloasma, etc.

This arrangement is supported by much ingenious argument, and reflects great credit upon Dr. Thomson's sagacity and discernment; but we confess that we do not altogether agree with him in the opinion which is strongly maintained, that Variola, Varicella, and Vaccinia are totally different diseases, as we think that there are strong grounds for believing, that these three affections are probably modifications of one disease. Nor do we agree with Dr. Thom-

son in considering Erysipelas as *necessarily* a contagious disease; for although we admit that, *under certain circumstances*, erysipelas spreads rapidly from one patient to another, yet we believe that it more usually occurs as an isolated disease. In our own experience, we can perfectly well recollect an epidemic form of erysipelas which occurred at University College Hospital in the year 1835, when almost every wound received by the patients, as in surgical operations, bleeding, cupping, etc. was followed by a severe and often a fatal attack of erysipelas; but, in all our subsequent experience, we have not observed that the disease assumed a contagious or infectious character, but that it occurred as an idiopathic affection, and without any trace of contagion. Although erysipelas is always attended with a certain amount of danger, yet we believe that the type of disease which prevails in Hospitals is far more fatal than that which occurs in private practice, and that it is important, in a practical point of view, to constitute species founded upon its infectious or non-infectious character.

Among the Exanthemata, Dr. Thomson describes the two forms of cutaneous eruption which respectively characterize the Spotted Fever and the Typhoid Spotted Fever; and, as this distinction is exceedingly important in a practical point of view, we are induced to copy the descriptions given by the author. In the Spotted Fever, the *Typhus Maculata Petechialis*, there are perceived upon the thorax and abdomen, and occasionally upon the thighs, legs, arms, and even the face, a number of small rose-coloured spots of an oblong or lozenge form, scarcely elevated above the surface of the skin, into which they fade without any definite margin. For two or three days, they only partially disappear under pressure; and, after that time, they do not disappear at all, whilst at the same time they become circumscribed, become also deeper in colour, and assume the true petechial character. *The presence of this petechial eruption is a certain indication that there is no ulceration of Peyer's glands*: a fact which post-mortem examinations of fatal cases at the Fever Hospital have amply verified. In the Spotted Typhoid Fever (the *Febris Typhoides Maculata*) the spots are few, sometimes not more than three or four, generally appearing upon the abdomen, the thorax and back, rarely or never upon the extremities: and never upon the face. The eruption is in the form of a small circular or lenticular spot of a bright rose-colour, fading into the natural colour of the skin, disappearing upon pressure during the whole time of its existence, and never displaying the petechial character. *The appearance of this eruption always indicates morbid changes of Peyer's and the solitary glands*: the ulceration of which is always attended with danger.

In the Introduction to the fourth chapter, we find the following excellent observations, which we are happy to transcribe entire, as it cannot be too strongly impressed upon the mind of the Dermatologist, that however important it may be to discriminate the external characters of cutaneous diseases, yet that most of those affections are to be considered rather as indicating some derangement of the whole system than of a single organ, and that the treatment should be directed accordingly. "These eruptions can generally be traced to some morbid condition, either of the digestive organs, or the secreting or assimilating systems; and consequently, independent of fever, they may still correctly be regarded as symptomatic of constitutional affections. It is scarcely necessary to remark, that every deviation from the healthy condition of the skin, if it cannot be traced to the direct influence of some external agent, such, for example, as great solar heat, which produces *Eczema solare;* or to dry powders and alkaline solutions, which produce two distinct local forms of psoriasis, and similar causes, must be regarded as depending on some morbid change, either in the function of digestion, or assimilation, or secretion, or in some derangement of the general constitution. This truth was indeed known to Hippocrates, who classed cutaneous eruptions as *local*, and *general* or *constitutional*. The former are few compared with the latter: and there is reason for suspecting that even the former,

with some exceptions, are also connected with general derangement of the system. With respect to the latter, it is well known that the blood occasionally becomes changed in its composition, owing to the nutrient matters from which it is formed not being in their natural state: hence, either depositions of morbid matter take place in the tissue of the skin, or inflammations are set up in it, both productive of various cutaneous eruptions. Many diseases of the mucous membrane are occasionally excited by the action of external injurious agencies on the skin: and, from sympathetic influence, derangements of the mucous membrane cause diseased conditions of the skin, not only in relation to its circulation, but in inducing an altered and morbid state of its secreting function. This sympathetic influence of those two important organs has been well ascertained; indeed, on no other principle can we explain the repulsion of some cutaneous eruptions affecting internal organs, and the relief occasionally afforded to internal diseases by their sudden appearance. I have seen deeply-seated pains in the chest, which have been mistaken for and treated as pleurisy, suddenly disappear, on the breaking out of a crop of herpes on the skin over the seat of the pain, which probably was in the serous membrane, as the symptoms closely resembled those of pleurisy. There is no doubt that the skin and serous membranes sympathize, although in a less degree than the skin and the mucous membranes; we nevertheless observe inflammation of serous membranes sometimes excited by the action of hurtful influences on the skin, and the latter suffering from derangements of the former. The stomach, and the digestive and secreting organs, however, are generally the primary sources of the altered conditions of the capillary circulation, and of the cuticular secretions, that produce many of the eruptions which appear on the skin."

When the author is guided by such sound physiological principles, we may expect that the treatment, which he recommends for adoption in cutaneous diseases, should be judicious and efficient: and this indeed is the fact. We find throughout, that the management of the case is made to consist more in constitutional than in local remedies, and that it varies in accordance with the general symptoms exhibited by the patient. Where the secretions of the chylopoietic viscera are in fault, mild alteratives and antacids are recommended; where an inflammatory diathesis prevails, bleeding, either local or general, together with calomel and saline purgatives, are indicated: and where the disease has become inveterate and obstinate, then the iodide, the biniodide and the bichloride of mercury, the iodide of arsenic, and the liquor arsenicalis, may be administered, with the usual precautions to be observed in the use of such active remedies. In debilitated conditions of the system, and where the inflammatory symptoms are absent or have disappeared, then a course of the mineral acids, of the preparations of iron, or of cinchona and the vegetable bitters, is very properly recommended.

The use of the bath is also strongly indicated in several forms of cutaneous disease; and it is to be hoped, that the beneficial effect of this important agent is beginning to be appreciated in this country.

The author condemns, in general, the use of greasy applications in the treatment of skin-diseases; and in this condemnation we heartily join, as we believe that there is hardly any form of eruption, which is benefited by having recourse to such means; and we even agree with the author, that some of these greasy ointments which contain irritating ingredients, such as the unguentum hydrargyri nitratis. do more harm than good. When there are crusts or scabs on the skin, they may be removed by a bread and water poultice, or one made of decoction of poppies; where the disease affects the hairy scalp, the hair should be cut close before the poultice is applied; and after the scabs are removed, lotions containing the acetate of lead, the carbonate of potash, the bichloride of mercury, etc., may be applied, according to the circumstances of the case.

In the treatment of Lupus, Dr. Thomson was remarkably successful; and

we believe that we are only doing an act of justice to his memory, in giving the following sketch of the plan adopted by him in the management of this very formidable and intractable disease.

He used but few local applications, and relied chiefly on three medicines, viz., iron, iodine, and arsenic, together with biniodide of mercury, and the occasional use of cod-liver oil and quinine. When a patient first came under treatment, if the general health were at all lowered, and if there were any anæmic symptoms, cod-liver oil and iodide of iron were given for ten or fourteen days, the diet being at the same time nutritious, and other means being adopted to invigorate the system. Afterwards, the alterative treatment commenced with the administration of the biniodide of arsenic in doses of one-twelfth of a grain; and Dr. Thomson considered it the safest plan to adhere to these small doses, as in large ones it often produces gastrodynia, and when this has once occurred, the stomach is extremely intolerant afterwards of the smallest dose. If any gastrodynia came on, the medicine was at once left off, and opium and hydrocyanic acid were administered. Conium was after found useful, and was frequently combined with the biniodide. If the latter, however, could not be borne in any form, the liquor potassæ arsenitis, of the London Pharmacopœia, was given in small doses of from four to eight minims, and iodine was rubbed in over the healthy skin to promote absorption. Although local caustic applications were very little employed by Dr. Thomson, yet he occasionally applied the strong nitric acid to the edges of the ulcer, or a strong solution of nitrate of silver (3ij or 3iij to ℥j of water) over the tubercles, and subsequently acetate of lead-wash to lessen the temporary heat and swelling which followed. If unhealthy, pale, fungous granulations arose, an ointment of iodide of sulphur, or a very weak ointment of the biniodide of arsenic, or of either of the iodides of mercury, was employed. Four cases are recorded in the work, in which the above treatment was adopted, and with perfect success in every instance.

The last 132 pages are written by Dr. Parkes, and they comprise the history of several diseases which are unknown in this country, such as Elephantiasis, the Aleppo Evil, Pellagra, and Pachydermia. The elephantiasis is considered by Dr. Parkes as identical with the leprosy of the ancient writers. This portion of the work does great credit to Dr. Parkes's industry and judgment, and in its composition he has availed himself of all authentic sources of information. Purpura is justly considered by him to be not so much an elementary form of disease, as an accompaniment or consequence of several diseased conditions of the system; and the treatment must, of course, depend upon the peculiarities of each individual case.

As bearing upon the present subject, we now notice some very interesting remarks upon the subject of Cutaneous Diseases, lately advanced by Dr. Hughes Bennett, and published in some recent numbers of the *Edinburgh Monthly Journal of Medical Science*. This accomplished pathologist considers that the classification of cutaneous diseases, which is best suited to the student, is still that of Willan and Bateman, with such modifications, however, as are suggested by the advanced condition of pathological science.

Dr. Bennett proposes to exclude altogether from the classification of skin-diseases, such affections as Scarlatina, Rubeola, and Variola, as he considers them to be influenced by laws of a peculiar character, and different from those which regulate other eruptions. He in fact would class them under fevers, rather than under skin-diseases. Varicella he likewise excludes from the arrangement, as he considers this disease, and we think justly, to be only a modification of small-pox. He proposes to abolish the order of Bullæ, and to place pemphigus or pompholyx among the Vesiculæ, and rupia among the Pustulæ. Among the Papulæ, he considers strophulus only as lichen occurring in the child; and among Squamæ, he regards lepra only as psoriasis occurring in an annular form. While thus abolishing some of the diseases established by Willan, Dr. Bennett adds some new ones, which the advance

of pathology and histology seem to establish. He proposes the terms Dermatozoa and Dermatophyta for those diseases which depend upon the presence of parasitic animals and plants. The acarus scabiei is placed among the Dermatozoa, and favus is removed from the pustules and placed among the Dermatophyta, for reasons which will presently be noticed. Dr. Bennett states that the diagnosis of skin-diseases should be founded upon *their primitive and essential appearance*, as whether it be a rash, vesicle, pustule, and so on: *the crust they present*, whether laminated or prominent, composed of epidermis only, etc.: *ulceration*, whenever present or absent, etc. He also admits that the classification of Willan, like any other classification, is quite inadequate to clear up the difficulties of diagnosis, which can only be accomplished by minute and assiduous attention.

In another lecture, Dr. Bennett considers at large the pathology and treatment of favus. From his experiments and observations, he concludes that the disease is of the nature of a vegetable parasite, an opinion which is confirmed by his microscopical investigations. Dr. Bennett also made a number of experiments, to ascertain whether the disease was capable of being communicated by inoculation; and, after several trials upon himself and others, he at last succeeded in producing a genuine eruption of favus upon the arm of one of the students attending the clinical class. He therefore considers that the disease is inoculable, and capable of being communicated by contagion; but that it does not readily extend to healthy persons, and that there must be either a predisposition to its existence, or that the peculiar matter of favus must be kept a long time in contact with the skin.

It is a rather curious circumstance, mentioned by Dr. Bennett, that while the porrigo favosa and lupinosa, (considered by Dr. B. as mere varieties), are common in Edinburgh, the porrigo scutulata is exceedingly rare. In London, we believe the reverse to be the case; for the latter is with us very common, and the two former comparatively unfrequent.

Dr. Bennett, in treating this disease, regards it not only as a local affection, but in many cases as a constitutional malady, dependent upon the causes which induce scrofulous disease in general. He therefore recommends the use of such remedies as are calculated to remove the tendency to tubercular exudation, and he more especially relies upon cod-liver oil, given internally and applied externally. The local treatment consists in poulticing the affected scalp for several days, until the favus crusts are thoroughly softened and fall off. Then the head is to be carefully shaved, cod-liver oil is to be applied with a soft brush, and the head covered with an oil-skin cap, to prevent evaporation and exclude atmospheric air. This treatment, in the hands of Dr. Bennett, appears to have been attended with considerable success; but it must be recollected, that the form of favus which prevails in London, is a very different disease from that described as occurring most frequently in Edinburgh.

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1. Nature and Cure of Consumption, Indigestion, Scrofula, and Nervous Affections. By G. Calvert Holland, M.D.; lately Physician to the General Infirmary of Sheffield. 8vo. pp. 208. London: 1850.
2. Cases Illustrative of the Cure of Consumption and Indigestion. By G. Calvert Holland, M.D. 12mo. pp. 104. London: 1850.

In our volume for 1849, (p. 748), we noticed a pamphlet by Dr. Calvert Holland, intended to prove, that the great purpose of the hair in the animal economy is to act as a safety valve, by carrying off any excess of nervous influence, and forming "extensive and vital relations with the great principle pervading the universe." The books now before us are not so grotesquely attractive as that production, but are simply such as are regarded by the profession as advertisement books, baited in the present instances with a little homœopathy, in addition to the usual trash contained in the advertised publications

of professed curers of indigestion, scrofula, consumption, and nervous affections. It pains us so to write of an author who once stood well in the ranks of science; but we must warn the young and the unwary, by reminding them that, though the applause and the guineas of the London coterie of globulists (over whom Lord Robert Grosvenor presides), may be pleasant and satisfactory to many, they can only be enjoyed by those who renounce the good opinion of their brethren, and openly proclaim themselves as aliens from the domains of legitimate medicine.

The first of Dr. Calvert Holland's volumes is dedicated to "Frederick Foster Quin, M.D., by his sincere and obliged friend the author." Both books are replete with Quinism, by which term we may, for want of another, designate that mongrel species of homœopathy now in vogue, which *inter alia* advises large doses of camphor in cholera, and common quantities of aloes, or castor oil, as "adjuvants" to the globules, when the bowels are constipated. A lady, who lately consulted us, produced a pot chiefly consisting of Barbadoes aloes, given to her by a London homœopathic accoucheur. She designated the drug, "the homœopathic paste for constipation", and took it nightly in five-grain doses. A second lady, with pulmonary tubercles, in detailing her medical history, informed us, that a homœopathic physician at Brighton had ordered her to take cod-liver oil. A third lady assured us, that a well-known homœopathic doctor had prescribed for her castor oil! These cases, and others of like nature which we could enumerate, as well as the recent tone of homœopathic writings, convincingly testify, that homœopathy, as a system of medical practice, is almost extinct; the name and the globules being retained, chiefly as topics of discourse and sectarian insignia—insignia of no mean pecuniary value to those who can adroitly display them.

Excision of the Enlarged Tonsil, and its Consequences in Cases of Deafness. With Remarks on Diseases of the Throat. By Wm. Harvey, Esq., Surgeon to the Royal Dispensary for Diseases of the Ear. pp. 121. London: 1850.

This little book is the result of experience and reflection, and is therefore well deserving of the attention of the profession. A review of the entire subject of Excision of Tonsils, and in particular of 116 cases in which this operation was performed for the purpose of relieving deafness, has led Mr. Harvey to declare himself as an opponent of this practice. "That occasions may arise when operations may be called for, in order to afford relief for the distress occasioned by enlarged tonsils, he does not mean to deny; but that deafness could be one of these occasions—at least as long as the anatomical relations of the tonsil, and the aperture of the Eustachian tube continue the same as they now are—he can by no means admit." The following propositions are illustrated by cases.

"1. The enlarged tonsil, or elongated uvula, does not, *per se*, give rise to imperfect hearing.

"2. Its extirpation does not only not remove deafness, but on some occasions causes it.

"3. In cases wherein the tonsil is enlarged, the disease is in the mucous membrane generally, and its morbid condition, when remediable, is so only by means of a judiciously-regulated constitutional treatment.

"4. The tonsils are not merely secreting organs, but play a further and most important part in the animal economy, holding most intimate sympathies with important, though distinct, organs.

"5. Extirpation of the tonsil in the young has led to pernicious results, such as giving rise to bronchial and pulmonary disease, with other mischiefs mentioned in this work; and, notwithstanding high authorities in favour of extirpating the tonsils or uvula for the relief of deafness, the operation has almost uniformly proved a failure." (p. 22.)

The Treatment is well explained in the following passage, from which

also may be gathered Mr. Harvey's opinion as to the relation which exists between chronic enlargement of the tonsils and the rheumatic diathesis. We invite the profession to make trial of this new therapeutic application of colchicum ; and to pay attention generally to the recommendations contained in the subjoined extract.

"With respect to the line of treatment which I would recommend in cases of enlarged tonsil, whether such tonsil be hypertrophied or indurated, I would, in the first instance, administer the bichloride of mercury in small and divided doses, combined with tincture of rhubarb and of bark, to be taken at bed-time ; I also advise tincture of colchicum (the wine of the seeds) internally ; enjoining at the same time an external application of the colchicum, combined with soap liniment, to be rubbed on the neck. There are cases, as already stated, of tonsillar enlargement, in which much benefit has been derived from the internal use of cod-liver oil. This treatment, however, seems more particularly adapted to cases, where a decided scrofulous character predominates. This condition, I think, prevails more in children under puberty, and in whom the health is very much below the ordinary standard.

"No single remedy can be relied upon, nor do I hold out any specific power in colchicum as a panacea ; but of all those medicines that have been recommended for the discussion of these troublesome glandular affections in a chronic state, I think it will be found the best. But as the change of the constitution is to be promoted, I have found also a change in the remedy sometimes necessary, the habit approaching very much that of the scrofulous diathesis ; of course all means adapted to amend that condition should be employed.

" I have long since thought, from many specimens of these diseased tonsils which I have examined after extirpation, having had also the opportunity of investigating their history, that their contents resemble very much those concretions found in the joints of gouty and rheumatic patients, and hence it occurred to me that these concretions might be amenable to the same mode of medical treatment, and the control of the same medicine, viz., *Colchicum*, as the gouty concretions themselves." (pp. 76-77.)

In speaking of " Scrofulous Sore Throat", Mr. Harvey has the following remarks :

" In the affections which we are now considering, influenza, as has just been noticed, is a very important agent, particularly during the autumn and winter months, producing disease in the throat, and, as a consequence, deafness in either one or both ears. This affection more frequently exhibits a rheumatic character, and the structures of the ear are particularly subjected to its aggression ; the membrane becomes sometimes dry, and sometimes granular ; this appearance is continued up to the internal lining of the tympanum, after having produced a thickening of the sides of the pharynx, and frequently enlargement of the tonsil. The same consequences are observed to take place in the scalp and pericranium, and perhaps even in the meninges. But as the attack is generally attended with an asthenic condition of the constitution and great debility, we are precluded from treating it more actively than by blisters, or by colchicum, the latter to be applied both locally to the part most affected, and to be given internally also. I have also known otitis to occur, and sometimes abscess to form in the glandular system, more frequently in the parotids, producing great pain over the head, with tenderness of the pericranium, and accompanied by catarrhal and laryngeal irritation in the chronic form : when the patient experiences a dryness of the nostrils and soreness of the throat, accompanied with a dry cough, and pain of the ears of one or both sides, then it is that our attention is more particularly called for.

" This condition now described is attended with considerable dulness of hearing ; it may occur suddenly, or come on very gradually, during the course of the influenza attack, affecting one or both ears, until it arrives at so high

a degree, as to occasion considerable inconvenience to the patient. It may so happen that one ear only suffers, the other not participating in the diseased action. Noises in the ears are present during the whole course of the disease, which often continue to distress and harass the patient for some time after the convalescence. This symptom however, does not necessarily indicate any serious or unfavourable change in the structure of the organ, whilst the symptom may be referrible to chronic inflammation about the fauces and soft palate ; they appear swollen, and the uvula considerably relaxed.

"The indications of treatment appear *better* carried out by the exhibition of colchicum, both externally and internally, and by warmth to the head. There is an exacerbation ordinarily towards evening, the affection assuming a remittent character. The disease so much resembles rheumatism in its paroxysms, that, without objecting to the treatment ordinarily adopted for that affection, I cannot help observing that in the treatment, both as respects the ears and the throat, the colchicum combined with quinine is the only remedy we can rely upon, exhibited internally, and used externally in the form of embrocation.

"I have for some time relied upon the wine of the seeds, and given it for a continuance in small doses, never exceeding five drops, three times in twenty-four hours. The granular appearance of the mucous membrane is tedious in yielding, but the most troublesome symptom, and one that continues most obstinately to distress the patient, is the noise in the ears, the most effectual remedy for which I have found to be the colchicum. As the normal condition of the membrane returns, so also will the audition. It is at this period we are more perhaps induced to look to the Eustachian passage, as the only means to relieve our patient. But in so far as my experience has been directed to this point, a much greater reliance can be placed upon the constitutional treatment, than upon either local or instrumental interference; instrumental aid being deemed as a *dernier ressort*." (pp. 91-93.)

For interesting remarks upon "the dependence of speech on hearing" and other topics, we must refer our readers to the author's treatise. Our object has mainly been to direct attention to what is both the most novel, and the most important part of the treatment recommended. We have had no experience of colchicum in chronic enlarged tonsils ; but we have long principally relied, in such cases, upon constitutional remedies, and can sincerely and strongly testify in favour of a long continued course of small doses of iron ; the patient, at the same time, taking occasionally, (for weeks at a time), one or two teaspoonfuls of cod-liver oil twice or thrice daily. The preparations of iron, which we prefer, in such cases, are the syrup of the iodide, and the citrate of iron with quinine. It answers well to alternate them. From four to twelve drops three times daily of the syrup of the iodide of iron, of the Edinburgh Pharmacopœia, is a sufficient quantity. It ought (*immediately before administration*) to be largely diluted with water ; and taken at meals. From gr. ss. to gr. jss. of the citras ferri c. quinâ, is, we think, a sufficient dose for a child under twelve years. Larger doses sometimes, but not commonly, give more rapidly beneficial results ; but generally, they cannot be long borne, and a good medicine thus runs the risk of being discontinued before it has had a fair trial ; for under weeks, or even months, a satisfactory result cannot always be obtained.

PRINCIPLES OF SURGERY. By JAMES MILLER, F.R.S.E., Professor of Surgery in the University of Edinburgh. *Second Edition*, 8vo., pp. 803. Illustrated by 238 Engravings on wood. Edinburgh : 1850.

We have examined this work with care, and can commend it to our readers as up to the present state of knowledge. The matter, besides being well condensed and digested, is clothed in remarkably clear and readable language. For students, we think it most suitable as a text-book ; and practitioners will generally find in it a sufficiently copious exposition of the principles of the modern science of Surgery.

GOUT: ITS CAUSES, CURE, AND PREVENTION, BY AN ORIGINAL AND MOST SUCCESSFUL TREATMENT, FOUNDED ON THE ORGANIC CHANGES IN THE HUMAN SOLIDS, AND ON THE FUNCTIONS OF THE SKIN, WITHOUT THE USE OF COLCHICUM. By ABRAHAM TOULMIN, M.D., Member of the Royal College of Surgeons of England; Surgeon, for nineteen years, to the Tower Hamlets' Dispensary; and late Consulting Accoucheur to the Universal Medical Institution for Lying-in Women. pp. 112. London: 1850.

The suspicions excited by this title are confirmed by the very first words of the preface,—"In submitting to the *public* what, I flatter myself, will be found to be a greatly improved method of treating Gout," etc.,—and established, beyond all question, by the concluding paragraph of the introduction, in which we are told of various subjects necessary to be discussed at the outset, because a preliminary consideration of them "will be so important in enabling us to point out satisfactorily to the *general reader*[1] the causes of Gout." We know, therefore, at once, with what sort of a book we have to deal; and, speaking as plainly to the author as he has spoken to us, we take leave to tell him, that, in writing a work of this character, he has grievously sinned against the profession to which he belongs. Some subjects connected with medicine may be legitimately treated in a popular style, adapted to the popular understanding; but we affirm, without fear of contradiction by any right-minded person, that when a practitioner has, or thinks he has, discovered a new or improved method of treating any disease, he is bound by all the laws of honour to submit it, first and specially, to the judgment of the profession. The general public are incompetent to judge of its rightness or its wrongness; and, in appealing to such a tribunal, the author is seeking a verdict which is of no scientific value whatever.

Having premised this, and thus delivered our conscience, we shall state, as succinctly as we may, DR. TOULMIN's views and treatment. His theory of Gout is given in the following words: "The formation, then, of urate of soda in the animal organism may be considered as originating the gouty diathesis; and its deposition in some one or other of the joints, as the proximate or exciting cause of the acute attack." (p. 24.) The insolubility of this salt prevents its excretion by the kidneys, and therefore it is retained in the blood; and, being of a highly irritating nature, it causes all those uneasy feelings and anomalous sensations which are so well known to the gouty subject. "As it increases in quantity," Dr. Toulmin remarks, "the system would naturally feel the importance of getting rid of a matter so injurious to its healthy action; and, not being able to expel it by either of the usual outlets, would adopt the only alternative left her, that of depositing it in some part of the body, *out of the way of her operations*,[2] and farthest removed from the centre of vitality; and hence the extreme joints of the feet and hands are generally first affected." (p. 22.) But these districts of her government, though *out of the way* of the good old lady, Nature's, operations, rebel against the unwelcome intruder; for "physiologists will have no difficulty in conceiving the immense irritation that the deposition of a concrete earthy matter in the joints, must produce in parts peculiarly smooth and hard in texture, and intended by nature to have free motion on their articular surfaces. Thus, no sooner is such deposit made, than inflammation of a peculiar kind is set up; when, after a longer or shorter period, the absorbent vessels of the part are stimulated to increased action, and again decompose it. It now once more enters into the circulation under new affinities, and becomes ultimately excreted in some soluble form." (p. 23.) It is a pity to knock such a pretty little theory on the head; but we are provokingly reminded of various other abnormal presences in the blood, which the system does vigorously resent, but without having the good sense to put thus *out of the way*, for the purpose of being taken *in again* in a more manageable shape. We would be

[1] The italics are our own.

[2] The italics here are Dr. Toulmin's.

glad also if Dr. Toulmin would condescend to inform us, by what sort of increased action the absorbent vessels succeed in reducing to a more comfortable shape this troublesome invader of the peace of the distant parts.

Dr. Toulmin's treatment has for its chief object the removal of urate of soda from the system; and as the kidneys, according to him, refuse to excrete it, and it cannot find an outlet by the alimentary canal, the skin is the only channel left. To bring about a free discharge from the cutaneous surface is, therefore, the great desideratum; and this is effected by the use of the *Thermaclin*,—that is to say, a hot-air bath. The following is then the way in which an acute attack should be managed. "In all cases, it will be necessary to prepare patients for the use of the thermaclin, by exhibiting some kind of aperient medicine; in general, a few grains of blue pill or of calomel over night, with a saline purgative in the morning, will be sufficient; but in others, the preparation will require a longer time. No general practice can, therefore, be laid down that is applicable to every case. If, in addition to the usual arthritic inflammation in the part affected, there be a sthenic diathesis present, characterized by a quick, full, and hard pulse, venesection at the arm is a prerequisite essentially necessary; long experience having taught me, that to attempt the use of the thermaclin, in such a state, is useless. . . But in the majority of cases, this state of system will not be found to exist; in such, having previously emptied the bowels by a suitable aperient, and abstinence from solid food having been enjoined, for at least five hours, the patient is placed in an alkaline warm bath, at 98° F. where the skin is well cleansed with soap. This not only answers the purpose of ablution, but prepares the skin for diaphoresis, whilst the absorption of the alkali into the blood has an important and beneficial effect. The patient may remain in the warm bath half an hour, and it is here, also, that the bleeding, when required, can be best performed; the blood flowing more freely, from the heated medium in which the patient is resting. He is then dried and removed from the bath to the thermaclin, the temperature of which will depend on the peculiar symptoms present. After a longer or shorter period, profuse perspiration will appear, when, if the apartment be small, or the atmosphere mild, the door and windows may be thrown open, and the patient be supplied with copious draughts of cold water, which, instead of checking, will materially facilitate the flow of perspiration. After a period of time, varying in duration from one to three hours, he may be taken out, wiped dry, and placed in a warm bed, and subsequently have given him some light nourishment, in a fluid form, and then be left to his repose.

"The first thermaclin is always attended with less easy feelings than any succeeding one; there is, at first, greater difficulty in inducing free perspiration; the exhalent vessels, also, throw out a more offensive odour than afterwards, which, in some cases, is indeed very powerful, and affords a criterion of the state of the patient's health. In the morning, it will in general be found, that he has passed a very comfortable night; that the pain and redness of the limb are much diminished, and that he can now bear pressure with a degree of impunity, compared with the preceding day. He is now again to be placed in the thermaclin, which he will find more pleasant than at first. The perspiration will flow with greater freedom, and the peculiar odour above mentioned will be less offensive. On the termination of the second thermaclin, all the symptoms will be most materially mitigated; pain will have ceased, and the swelling of the limb be much diminished. By this time he will, in general, be able to walk about his room; but as the cutaneous pores are open, he had better not quit it. His diet should be of a light description, avoiding animal food.

"When the thermaclin should be again repeated, must depend on the peculiar circumstances of each case; usually three or four repetitions of it will be found sufficient to remove all traces of the recent attack; by which time, if the constitution be good, and the gouty disposition of not very long standing,

even the stiffness will also have greatly disappeared. What medicine may be necessary, must depend on the peculiar symptoms present in each case, and particularly on the state of the urine. If there is much deposition of lithic acid in that fluid, a saline, containing citrate of ammonia, may be exhibited with advantage; in some cases, a few grains of Dover's powder will be useful, and in others, a saline aperient will be required, but on no account colchicum. . . . When the pain, redness, and tumefaction, have all entirely subsided, the patient may take his last thermaclin (which, for this purpose, should be given in the morning), and on getting out of it, he may, without loss of time, immediately step under the shower-bath; after which, he must be well rubbed down with coarse towels, and dress quickly. The process is now completed; the patient may expose himself to the open air with perfect safety, and it is desirable that he should take some exercise. He may then sit down to a hearty breakfast, to compensate for his previous abstinence."

Several cases are related, showing the successful operation of this plan.

Practical Observations on the Pathology and Treatment of certain Diseases of the Skin generally pronounced intractable. Illustrated by upwards of Forty Cases. By Thomas Hunt, M.R.C.S.Eng., F.S.A., etc. pp. 156.

In this work, the author does not profess to throw any new light upon the Pathology or the Classification of Cutaneous Diseases; and indeed his whole object seems to be to prove, that for certain chronic and inveterate affections of this class there is only one remedy,—namely Arsenic.

Although we do not wholly approve of the plan of writing a book, for the purpose of proving that any one remedy is an infallible cure for a large group of diseases, we are, on this occasion, inclined to overlook the fault, as many of Mr. Hunt's observations are well worthy of attention.

The diseases which Mr. Hunt considers as most likely to be benefited by his plan of treatment are Lichen, Prurigo, Lepra, Psoriasis, Pityriasis, Chronic Urticaria, Purpura, Impetigo, Ecthyma, Eczema, Acne, Sycosis, Lupus, and non-congenital Nævus; all which, "differing widely, one from another, in their eruptive forms, and scarcely presenting one positive, palpable, and distinctive point of resemblance to each other respectively, may yet be regarded as *one disease*, manifested in different individuals by different kinds and degrees of cutaneous inflammation or irritation." (Page 4.)

Mr. Hunt's treatment consists in first preparing the system of the patient, by rectifying any local or constitutional disorder which may coexist with the cutaneous eruption. He then commences the arsenical treatment by giving the Liq. Potassæ Arsenitis of the London Pharmacopœia, in doses of five minims three times a day. He points out the necessity of continuing the remedy *in diminished doses* for a considerable time, and he states, as the result of his experience, that he has never observed any unfavourable symptoms to follow the long-continued employment of the mineral under these circumstances. He recommends that it should be given with the beverage taken with or after meals; that its effects should be watched, and the patient examined at least twice a week. He lays great stress upon the fact, that before the system is injuriously affected by the arsenic, the patient feels a pricking sensation in the tarsi, and the conjunctiva becomes slightly inflamed. "*At this crisis*," says Mr. Hunt, "*the disease is brought under arrest, and generally from this period appears to be shorn of its strength.*" (P. 12.) He then diminishes the dose, but perseveres in the use of medicine for a lengthened period; indeed, until the cutaneous affection disappears. The cases in which arsenic has failed have been, according to Mr. Hunt, 1st, Those which are of a syphilitic character, and which are remedied by mercury, not by arsenic; 2nd, Those in which arsenic is given during an inflammatory or febrile condition; 3rd, Those in which it is given upon an empty stomach, and in which, therefore, it is apt to produce gastro-enteritis; 4th, Those in which it is given in too large or *in gradually increasing doses.*

CLASSIFIED CATALOGUE OF THE PAPERS WHICH HAVE APPEARED IN THE BRITISH AND FOREIGN MEDICAL PERIODICALS FROM JANUARY 1849.

CHAPTER III.

OBSTETRICS, AND DISEASES PECULIAR TO WOMEN.

BRITISH AND AMERICAN JOURNALS, FROM JANUARY 1849 TO JUNE 1850.

BY ALEXANDER HENRY, M.D.

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Medico-Chirurgical Transactions	Med.-Chir. Trans.
British and Foreign Medico-Chirurg. Review.	B. and F. Med.-Chir. Rev.
Guy's Hospital Reports	Guy's Hosp. Rep.
Lancet	Lancet.
Medical Gazette	Med. Gaz.
Medical Times	Med. Times.
Provincial Medical and Surgical Journal ...	Prov. M. and S. Journ.
Edinburgh Medical and Surgical Journal ...	Edin. Med. and Surg. J.
Monthly Journal of Medical Science	Edin. Month. Journ.
Dublin Quarterly Journal	Dub. Quart. J.
Dublin Medical Press	Dub. Med. P.
American Journal of Medical Science	Amer. Journ. of Med. Sc.
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Speculum, Improved, for Vesico-Vaginal Fistula. Keiller (Dr.) Edin. Month. Journ., Feb. 1849, vol. iii, N. S., p. 559. Speculum and Digital Examination; their Uses and Abuses. Malgaigne (M.) Lond. Journ. of Med., Feb. 1849, vol. i, p. 203. From Journ. de Méd. et de Chir. Prat., Dec. 1848. See Diseases of Os and Cervix Uteri, p. 862.

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CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

PRACTICE OF MEDICINE AND PATHOLOGY.

INUNCTION IN SCARLET FEVER: WITH RULES FOR THE WHOLE TREATMENT, AND PROPHYLAXIS OF THE DISEASE.

Dr. Schneemann, physician at the court of His Majesty the King of Hanover, has published an important paper, satisfactorily proving the benefit to be obtained from Inunction of the Whole Surface. The eruption is so much modified, that the skin is enabled to perform better its essential functions. We abridge a translation of the paper, in the *Lancet* of 15th Sept. 1849.

The advantages of the treatment about to be laid down, are, the annihilation of the injurious effects of the exanthem on the functions of the skin. The eruption is so modified, that scarcely any desquamation takes place; and the skin, instead of burthening other functions, produces, by continuing in a state of comparative integrity, so beneficial an influence on the organs attacked, particularly the throat, that the normal condition is, in every case, and in every part, speedily restored.

Description of the Treatment. As soon as we are certain as to the nature of the illness, the patient must be rubbed, every morning and evening, over the whole body, with a piece of bacon, in such a manner that, with the exception of the face (!) and hairy scalp, a covering of fat is everywhere applied. In order to make this rubbing-in somewhat easier, it is best to take a piece of bacon of the size of the hand, choosing a parts till armed with the rind, that we may have a firmer grasp. On the soft side of this piece, slits are to be made in various directions, in order to allow the oozing out of the fat; and this is still further promoted by placing the bacon, for some time previously to using it, near the stove, in the oven, or on the hob. But the fat must be allowed to cool before being used.

The rubbing must be so performed, that the skin may be regularly, but not too quickly, saturated with fat. During the process, only that part being rubbed is to be uncovered, or the whole can be done under the bedclothes; but this precaution is unnecessary. Although this plan, from the mess it makes, is not calculated to find favour, as it dirties bed and linen, as well as the persons of the children, yet the first few days yield results which make all this forgotten, and inspire the mothers with enthusiasm. With rapidity the most painful symptoms of the disease are allayed; quiet, sleep, appetite, and good humour, return. Other things, however, are necessary besides infriction with fat; but still the most important share of the merit may be imputed to this treatment. The truth of this will appear from a citation of the first results which follow:

1. The improbability, I might say impossibility, of the patient getting cold. Were this the sole benefit of the Inunction, it would be great.

2. The dry brittleness of the skin, and the tormenting itching, are not only materially alleviated, but, for the most part, fully put a stop to. Hence, children generally like the rubbing-in, and often ask for a repetition of it before the time is come.

3. The influence on the physiological functions of the skin is still more important. During the coming on of Scarlet Fever, the skin becomes diseased, in consequence of which it dies off; and, until a new covering is prepared for the surface, the functions of the skin are ill performed, or, during the desquamation, probably not performed at all. To appreciate the importance of the imperceptible functions of the skin, merely mechanically viewing

the matter, I refer to the experiments of Seguin, which fix the quantity of matter thrown off from the outer skin at eleven grains per minute in a grown person, and therefore more than two pounds per day. What efforts it must cost the organism to lead so large a quantity into other paths, in order to throw it off when the skin is incapable of doing so! To give a striking proof of the bad influence which the interrupted functions of the skin produce on the healthy activity of relative, even of distant, organs, I may cite the fact, that death is always the result, where more than one-half of the skin has been destroyed by fire or boiling liquid. A similar destruction of the skin ensues in Scarlet Fever, with this difference, that it takes place gradually, and thereby the organism is better enabled, by employing all the activity of the body, to find aid against the mischief which, to the injury of the patient, must result from the cessation of the functions of the skin.

4. The oxidation of the blood is thus considerably promoted, the interrupting of which is the cause of such serious phenomena. As the disease of the throat is not improbably, in great part, due to the interruption of the functions of the skin and lungs, it must naturally disappear, or not present itself, where these are continued in integrity; and such is found, in practice, to be the case.

5. Owing to the fatty covering, the skin is kept moist, and the cuticle cannot be driven about the room by currents of air; and thus *one fertile source of infection is kept closed up*, it being well known that infection is most easily communicated at the period of desquamation. The danger of infection, under any circumstances, is materially lessened with the disappearance of the eruption from the skin, inasmuch as the process of generating infectious material is interrupted by restoring the skin to its normal state.

6. By shortening the period of desquamation, and protecting the patient against the sequela of the disease, the duration of the treatment can be shortened to a period of from six to ten days.

7. The remedy is (cheap), harmless, practical, and is perhaps never counterindicated. The linen must not be too frequently changed, as a clean shirt takes up more of the fatty matter than one already saturated, and hence the skin is sooner deprived of its fatty covering. The rubbing-in is to be kept up twice a-day for three weeks, and once a-day during the fourth. The patient is, after this, to be daily washed with cool water and soap, and then only is the warm-bath to be commenced. This process does not (as has been argued in some colleges) interfere with the natural course of the malady, and expose the individual to second and third attacks. In severe cases, the remedy may be repeated three or four times within the twenty-four hours. The main point is, to keep the skin *always* cool and moist; and here, even with all possible precaution, the skin will sometimes come off in certain places. The practitioner will do well to fix the exact hours at which the rubbing-in is to take place; it will then most probably be better and more regularly performed.

Other points, which are also important enough, now remain to be noticed:

8. *Temperature.* Experience proves that it requires no great daring to keep the patient *cold* instead of hot. Cold washing is *not* to be employed, as it promotes desquamation. Cool air seems to have a bracing influence on the system, and a soothing one on the respiration; and all danger is avoided by the fatty covering. The temperature of the bed-room should never be above 13° R. The idea of throwing back the eruption by mere cold air, is an error. Great heat is much more likely than cold to throw in the eruption. In fact, the fatal cases of this kind are principally those where, through keeping the patient too hot, the cerebral affection has been brought on; this has given rise to paralysis, which appears sooner in the skin than in other parts, and thus to the withdrawal of the eruption,—for the skin dies sooner than other parts, as shown in collapse, where mustard poultices do not act as in other states.

9. *Bed.* The patient should not remain in bed any longer than is absolutely necessary. As soon as the fever, headache, and a desire to remain in bed, are gone, he may quit it, for in bed the skin is between two fires,[1] and the functions of the body do not go on so well as in moving about. Hence, even when the patient must lie down an hour or two daily, he should still go about the rest of the time.

10. *Diet.* The diet should be light, but there must be no starvation, and as rapid a return as possible to the usual food.

11. *Washing.* Although it brings on desquamation, it will be as well to let the patient occasionally wash his hands and face with water and soap. It reconciles him to the dirt attendant on the rubbing-in.

12. If *constipation* ensue, it must only be combated with medicines; when, at the end of forty-eight hours, it makes no semblance of disappearance, then a clyster of poppy oil is the best remedy.

The author enters his protest against a partial employment of his remedies.

Complications require a Modification of the System. 1. *Severe cerebral symptoms at the commencement.* The above treatment can only be applied, where time is allowed for the development of the restorative process. Occasionally the case is accompanied at its very outset by severe cerebral affection, and convulsions. Here bleeding may be employed, and, if necessary, unhesitatingly repeated. To support this view, Dr. Schneemann instances the authority of Armstrong, Bernd, Stieglitz, Hammond, Hingeston, etc. Venesection is, accordingly, the sheet anchor. The other remedies are—1. The application of concentrated cold to the head; and the best form for this is ice. The cold dash is often more hurtful than useful, on account of the serious reaction which follows it, and exposes the patient more to the dangers of an apoplectic attack, although its results for the minute are often very flattering. *At the end of every two hours, the bladder of ice should be removed,* in order that the uninterrupted effect of the cold may not weaken too much the tone of the vessels of the brain. Warm mustard plasters to the shins are a most valuable remedy. Internal remedies are generally of little use where the above-given remedies fail; the only one of any importance is the carbonate of ammonia. Mercury is of little value, except just to open the bowels; for its specific action never comes into full play, till the system is throwing off the affection. There are, however, much better purgatives than calomel; the saline, for instance. Emetics ought not to be tried in cases complicated with cerebral affection; in others they may. The aconite failed in the author's hands, both in tincture and solution. With regard to the treatment by leeches and ammonia, so many writers have already pointed out its good results, that the author can safely recommend it, but with the proviso, that in urgent cases bleeding be substituted for leeches.

2. *The Affection of the Throat. Primary.* As this is but a link in the whole, so must the measures taken for its removal be such as will remedy the general affection. *Secondary.* For this, the rubbing-in, as it acts by prophylaxis, is the best possible remedy; but where this has not been brought into use, or where, from keeping the patient too warm, desquamation has come on, and the secondary sore-throat has set in, the best remedy is the use of emetics. They not only remove the tough glazy slime, but excite the secretions and excretions to more normal disposition, and this is especially the case if the disorder have a gastric character. Many, by confounding the employment of emetics in the early and latter stages, have brought them into discredit. For the swelling of the tonsils, an excellent remedy is, a solution of nitrate of silver, (twenty grains to an ounce of water), with which they and the soft palate are to be painted; but so many varieties present themselves in these secondary attacks following on Scarlet Fever, that no general rules

[1] Here it will be as well to state, that in Germany a feather-bed is frequently substituted for bed-clothes.

can be laid down. Here everything depends on the discrimination and judgment of the practitioner.

Prophylaxis. Warm clothing, separation from school, and above all, light diet, are the best preventatives. That the younger children, as more predisposed than the others, must be more carefully separated from the sphere of infection, is doubtful practice. Not only are many children never infected, who, however, by adopting this system, require to be as carefully secluded as the others, thus causing great inconvenience ; *but the mildening influence and actual advantage of a gradual accustoming to the infection are thereby lost, and consequently the attack, when it comes, is so much the more severe.* The free communication with the patient is good, in order that constant exposure may, as in the case of physicians and nurses, blunt and wear out the disposition to the disease ; for as it now is, children are separated from the patient during the first period, which is the mildest, and exposed to contact with him during the process of desquamation, which is the source of the most dangerous infection. Many preservatives have been vaunted against this malady during its epidemic appearance ; of these, however, the only one apparently deserving of much credit is the belladonna. Its action appears to be, "by altering the relations of the nervous system, to diminish the disposition to the disease." The author's prescription is—Take of extract of belladonna, one to two grains ; distilled water, one ounce. Mix. Give to each child, morning and evening, as many drops as it has years, and continue to do so at least fourteen days. But not to confine himself to his own testimony, Dr. Schneemann gives that of Jördens, Ettmuller, Hedenus, Gumpert, Hufeland, Martius, Pormey, Behr, Benedix, Thaer, etc , who have testified to the value of belladonna ; and though he admits that as many opponents might be found, he thinks it scarcely credible that all the former had deceived themselves. In certain sections of the circle of Bayeux, Dr. Feron preserved from Scarlet Fever all the children who had not been attacked before he commenced operations. In 400 cases near Valenciennes, treated with belladonna, not one person was attacked. Hahnemann has, however, only recommended it where the eruption is smooth, bright-red, and in large patches. But where there are roughness and purpleness of the skin, it seems to be useless ; and it may be that the bad success of many cases was owing to the neglect of this distinction.

The author requests all who may avail themselves of his plan, to communicate the results to the world. His theory, he says, is of little consequence ; but that the facts are invaluable. Spilsbury recommended this system of treatment in the wasting fever and night-sweats of the consumptive ; and Dr. Schneemann hints that it might be of use in measles and cholera. We have not observed that the views of Dr. Schneemann have obtained that attention from practitioners which they merit. We therefore invite our readers to communicate for publication in the London Journal of Medicine, any observations which either already have, or have not been laid before the profession. We think *we discover in the essay*, of which we have given an ample abridgment, *a very material improvement in the treatment of Scarlet Fever.* At present, the combined experience of independent observers is required. In the *Boston Medical and Surgical Journal*, (15 May, 1850, p. 309,) Dr. H. Lindsly has the following paragraph : "Scarlet Fever has been exceedingly fatal in this section of country during the past winter, sweeping off whole families of six, seven, and in some instances eight children ; and bidding defiance to all the ordinary modes of treatment. It was under these appalling circumstances, that I met with the article in the London *Lancet*, detailing Dr. S.'s mode of treatment. I at once determined to give it a thorough trial, and have accordingly employed it in every case that has since occurred in my practice, with the exception of three or four that had the disease very lightly. Some of these cases were of great severity, and just such as I had repeatedly lost under the ordinary treatment ; yet they all recovered rapidly after the em-

ployment of inunction. So far as I can judge from this very limited experience, I have come to the conclusion that the introduction of this simple mode of medication will probably be found the most important improvement, that has been made for many years in the management of Scarlet Fever."

We are inclined to concur in the hopes of Dr. Lindsly, from having seen in one case apparently very great benefit result from frequent smearing of the surface with olive oil; and from having been informed of the very great success which attended the treatment of an aged and now retired practitioner, whose habit, in many Scarlet Fever epidemics, had been to cover the surface of his patients with a thick, and often renewed, lather of soap, laid on with such a brush as is used in shaving.

SCARLATINAL VAGINITIS, WITH MUCO-PURULENT DISCHARGE.

Two papers have recently appeared, on this subject, in the *London Medical Gazette*,—the one by Dr. Robert Barnes, July 12, p. 65; and the other, (a commentary on it,) by Dr. Cormack, August 2, p. 198. Though, perhaps, the subject is not possessed of quite so much novelty and medico-legal difficulty as are attached to it by Dr. Barnes, it has sufficient interest to justify our quoting the short and practical communications of both gentlemen.

Dr. Barnes' Paper. "In the summer of 1843, I witnessed, in the wards of M. Chomel, at the Hôtel-Dieu, a case of Scarlatina in a girl about sixteen years of age. Owing to an unfortunate accident, by which I lost the greater part of the notes I made in the Paris hospitals, I cannot give a detailed account of this patient. She presented one symptom, which, on account of its novelty, and its important relations to forensic medicine, is, I think, particularly interesting. After the decline of the eruptive stage, and when apparently convalescent, there occurred a muco-purulent discharge from the vagina, similar in character to the discharge which not uncommonly flows from the nares, as one of the sequelæ of Scarlatina.

"There was evidence to show that this discharge did not exist at the time of the girl's admission, and that it was *first* observed at the period I have mentioned,—viz., after the decline of the eruption, when she had been some days in the hospital.

"I believe that the discharge was not blennorrhagic, but a newly-observed feature in the pathology of Scarlatina.

"It is in the suspicion of blennorrhagia, that lies the interest of this symptom in relation to forensic medicine. In this case, for example, an unmerited stigma might attach to the girl's character, were it not admitted that the discharge might be the result of Scarlatinal Vaginitis. Numerous other charges of a grave nature might be founded upon such an appearance. Accusations of rape even might receive corroborative proof from its presence. About two years ago, I saw a child of eleven years old, who was recovering from Scarlatina. It was then observed, for the first time, that she had a discharge from the vagina, and suspicions were immediately excited that she had been abused by a lad in the neighbourhood. This discharge might have been a sequela of Scarlatina. I believe it was.

"The importance, then, of determining the possibility of a muco-purulent discharge as a consequence of Scarlatinal Vaginitis, is obvious. I am not acquainted with any author who notices this symptom. Dr. Tweedie has informed me that his attention has never been directed to such an occurrence, and that when a purulent discharge from the vagina has been noticed in scarlatinal patients, he has concluded it to be blennorrhagic.

"My colleague, Dr. Miller, whose elaborate work on Scarlatina has thrown so much light on the pathology of the disease, has favoured me with the following interesting remarks:

"'I have never seen Vaginitis during the eruptive period of Scarlatina, nor even among the sequelæ. I am inclined to think that it is an uncommon

occurrence. Still, during a smart attack of the eruptive fever, when the mouth, nares, and pharynx, are implicated, it seems not unlikely that the inflammatory action should affect the vagina, there being a less abrupt merging of skin into mucous membrane (as in the mouth) than in other mucous outlets. Yet we know that the mouth, nares, and fauces, are specially implicated in this exanthem; and, were the other local affection more common, I think our attention would be drawn to it more frequently. In our dispensary patients, especially among strumous children, muco-purulent discharges from the vagina (slight Vaginitis) are common; and I have never had reason to suspect gonorrhœa, though it has been alleged. It is essentially a scrofulous disease of the mucous surface (*me judice*), and occurs in connexion with ascarides, accumulation in the large intestines, as a sympathetic affection, just as otorrhœa occurs during dentition in these subjects.

"'Recurring to the Vaginitis in Scarlatina, I should rather expect it to occur where there had been a very full eruption and good peeling, than in any other case. Did not the affection exist before, on careful examination of the child's friends, we might safely set it down to Scarlatina. But I cannot deem it a specific mark of the disorder, as the affection of the mouth, nares, and throat, will alone mark the disease, without the cutaneous eruption.'

"I am quite prepared to accede to the opinion of Dr. Tweedie and Dr. Miller, that a muco-purulent discharge from the vagina in Scarlatina *is a very rare occurrence;* but this very circumstance increases the importance of the symptom in relation to questions of legal medicine. The more rare the symptom, the less likely is it to be recognised as an effect of Scarlatina, and the more probable that it will be set down as a proof of contamination.

"I will not dwell too much on the two observations I have cited, as I cannot expect that they will carry the same conviction to others which they do to myself. I will therefore beg permission to refer to such points in the pathology of Scarlatina, as seem to give support to the view I have taken of these cases:

"1. The inflammatory action in Scarlatina attacks a wide extent of mucous membrane as well as skin. It invades a large portion, at least, of the alimentary tract: the mouth, fauces, pharynx, œsophagus, and, doubtless, sometimes the stomach and small intestines, are affected. The rectum and anus are commonly involved.

"The respiratory mucous tract is not less extensively implicated. The nares, larynx, trachea, and even the bronchi, have been repeatedly observed to be inflamed. The urinary mucous tract is equally affected: the bladder, the ureters, the pelvis of the kidneys, and even the tubuli uriniferi, are involved. The only mucous tract remaining, is the genital. Analogy forcibly points to the inference, that this will not be exempted from an inflammation which invades every other mucous tract in the body. I see no reason why the vagina (and also the urethra of both male and female) should not be as frequently and as essentially inflamed as the rest of the mucous membranes.

"2. *The Discharge.* A common sequela of Scarlatina is an inflammatory thickening of the Schneiderian membrane, accompanied by profuse secretion of an acrid muco-purulent matter.

"Even before the febrile symptoms are abated, a similar secretion, but generally of a more viscid mucous character, is abundantly thrown out by the mucous membrane of the throat.

"A viscid secretion, often containing flakes of lymph, is also frequently coughed up from the trachea. In short, the obstruction of the throat, mouth, and nares, by muco-purulent secretions, is one of the most distressing and alarming symptoms of Scarlatina.

"Scarlatinal inflammation, then, of portions of the alimentary and respiratory mucous tracts, is attended by morbid products similar in character to those attending severe inflammation arising from any other cause.

"Ordinary inflammation of the vagina and os and cervix uteri is most com-

monly productive of mucous or muco-purulent discharges. It is, then, reasonable to expect that Scarlatinal Vaginitis should produce similar results.

"I further believe, that a muco-purulent discharge from the vagina may also arise in connexion with small-pox and other exanthematous diseases, which affect large tracts of mucous membrane as well as skin.

"Such a discharge, arising from Scarlatina or small-pox, may frequently be overlooked; or, when detected, be erroneously attributed to blennorrhagic infection.

"I have another observation to make in reference to this subject. Like the discharge from the nares, the vaginal discharge may persist for a lengthened period after convalescence from the fever. It may constitute a new form of leucorrhœa, the true origin of which may never be suspected. In such a case, the treatment would be simple. I have found nothing succeed so readily in inducing a healthy action of the Schneiderian membrane, when affected by Scarlatina, as the application of nitrate of silver; and I have no doubt that a few injections of a solution of nitrate of silver into the vagina, so as to reach the os and cervix uteri, would effect a cure.

"In conclusion, I freely admit that the occasional occurrence of a muco-purulent discharge from the vagina, as a consequence of Scarlatina, has yet to be established. Observation alone can decide this. Extensive inquiry will soon determine the existence of this affection, and the relative frequency of its occurrence. These points established, the practitioner may often experience the grateful opportunity of dispelling unjust imputations against female virtue, and of defeating false accusations of criminal violence."

Dr. Cormack's Paper. "In 1844 I published, in the *Edinburgh Monthly Journal*, a memoir, entitled, 'Gonorrhœa and Syphilis with reference to Forensic Medicine and Therapeutics', in which I directed attention to various topics, including non-venereal Vaginitis. Since that period, several cases in my own practice, and others which have been mentioned to me by professional friends, have convinced me that exposure to cold, and other causes enumerated in the memoir referred to, are even more frequently the sources of inflammation and purulent discharges from the vagina, than I supposed at the period of its publication.

"At present, I only wish to say a very few words with reference to a paper which appeared in the *Medical Gazette*, July 12, p. 65, by Dr. Robert Barnes, entitled, '*On the Occurrence of a Muco-Purulent Discharge from the Vagina in Scarlatina, and the importance of this symptom in relation to Forensic Medicine*'. Dr. Barnes attaches a much greater amount of importance to such cases than I was aware they possessed. He considers them very uncommon; and, in support of this doctrine, he cites two eminent authorities, Dr. Tweedie and Dr. Miller. I do not write in a controversial spirit, but simply with the view of inducing others, *for the future*, to inquire into the presence or absence of Vaginitis in Scarlatina. Dr. Barnes says: 'I am quite prepared to accede to the opinion of Dr. Tweedie and Dr. Miller, that a muco-purulent discharge from the vagina in Scarlatina is a very rare occurrence; but this very circumstance increases the importance of the symptom in relation to questions of legal medicine.'

"During the last epidemic (1848-49) of Scarlatina,[1] I had, under favourable circumstances, considerable, though not a very large experience of the disease; and of all my cases I have preserved a record. Vaginitis I frequently met with, and I regarded it in no way as an unexpected or rare occurrence; but, on the contrary, as a not unlooked-for extension of the exanthematous inflammation of the skin, analogous in its nature to what is often met with in the mucous linings of the nose, ear, air-passages, and intestinal canal. In

[1] Much information regarding this epidemic will be found in Dr. Miller's admirable monograph, lately published.

the epidemic of 1848-49 I had under my charge twenty-three female patients, all of whom were cleanly, well nursed, and in a respectable social position. In twelve of the whole number, there was well-marked Vaginitis ; and so impressed was I with the importance of averting or preventing this affection, that, in every female patient, I directed, from the very first, careful ablutions of the parts to be performed at least twice in twenty-four hours. Of the twenty-three female patients, two only were above fourteen years, and these were respectively twenty-six and twenty-eight, and both married. Now both of these patients had *acute* Vaginitis, much more severe than any of the children. In one lady, for forty-eight hours, the discharge was so abundant as to require the nurse to change the towels at least every hour ; and it was of so acrid a nature as to excoriate the thighs and anus, notwithstanding every precaution being taken to protect these parts. The other had it more mildly ; but the Vaginitis was also in her a source of great suffering and discomfort. The first lady aborted : the second was not in the family way. The first was the most dreadful case of Scarlatina which I have ever seen issue in perfect recovery ; the second was one of moderate severity.

" Speaking, as I now do, from a very limited number of facts, I have no right to give an absolute opinion as to the frequency or rarity of Scarlatinal Vaginitis ; but I would venture to suggest, that the non-observance of this affection by the practitioner is no proof of its absence ; for patients suffering from scarlet fever are often too ill to make complaints : and, in other cases, the affection is managed by the nurse, without her thinking it necessary to trouble the doctor. The question must be decided by future experience of a large number of cases, carefully observed with a special view to its elucidation.

" The whole treatment required is generally frequent ablution with tepid water, and, if pain be complained of, the use of opiate fomentations. The children, with one exception, required very little special treatment ; but one, of strumous habit, continued to have a profuse muco-purulent discharge long after convalescence was in all other respects complete. Chalybeate medicines, cod-liver oil, and astringent lotions, at last effected a cure. The two adults were both treated by injections of nitrate of silver, and the keeping apart the labia by a piece of lint soaked in the same. I believe that, in severe cases, the nitrate of silver will be found the best local remedy : but the injury which it occasions to the linen of the patient, and of her bed, naturally occasions a prejudice against its use."

ACETATE OF POTASH IN SOME DISEASES OF THE SKIN.

Dr. J. A. Easton, of Glasgow, having been led, by a perusal of Dr. Golding Bird's Lectures, to employ Acetate of Potash in some Diseases of the Skin, has published the results at which he has arrived, in an important practical paper in the *Edinburgh Monthly Journal* for May 1850. The following cases, out of several in which the Acetate of Potash was used, have been selected by him as illustrating the skin-diseases most commonly met with. They are abridged from the reports of the Royal Infirmary of Glasgow.

Case I. Psoriasis diffusa. Ann M'Intyre, æt. 16, servant, admitted 18th September, 1849. About five months ago, without assignable cause, patient observed some small red patches on the lower extremities, which were soon covered by whitish scales, which fell off, leaving the surface red, shining, and tender to the touch. The patches gradually enlarged, till at length they formed an almost continuously affected surface. Two months after the patches had appeared on the lower extremities, some were observed on the upper ; these soon extended, so as to cover the arm from the wrist to above the elbow. On admission, the upper and lower extremities had the usual appearance of psoriasis. The elbow, wrist, and knee-joints, but especially the last, were deeply fissured, and covered with thick yellowish crusts. One or two patches

had also appeared on the face. To use the alkaline warm bath every day; to take five grains of the iodide of potassium thrice daily, and a Plummer's pill every night. Under this treatment, the disease continued to increase in intensity and diffusiveness till the 13th October, when she was ordered the following mixture: Acetate of Potash ʒv, water ʒxij. Mix. Of this mixture take an ounce thrice daily. Omit the other medicines. Was dismissed cured on 7th December. Duration of disease from commencing Acetate of Potash, less than two months. In this case, iodide of potassium and Plummer's pill, though persisted in for nearly a month, failed to make the slightest impression on the disease. No record was kept of the state of the urine.

Case II. Psoriasis diffusa. Sarah Miller, æt. 18, factory worker, of full habit of body, admitted 19th September, 1849. About two months ago, an eruption of small red patches, covered with white scales, appeared on the lower extremities, and three weeks ago on upper extremities. On admission, the lower extremities presented the usual appearance of psoriasis diffusa, and the eruption was not so general or intense on the upper extremities. Skin hot; pulse 72, full. She was ordered the warm bath, and to take 4 ounces of the following mixture morning and evening: Nitrate of Potash 2 drachms; sulphate of magnesia 1 ounce; water 24 ounces; Mix. On the 24th September, she was put on the Acetate of Potash, and the diuretico-cathartic mixture was discontinued. She was dismissed cured on the 14th November, the disease having lasted nearly two months from the time when the use of the Acetate of Potash was commenced. No record was kept of the state of the urine.

Case III. Psoriasis diffusa. Margaret Lindsay, æt. 40, laundry-woman, widow, admitted 26th November, 1849. On admission, the whole dorsum of the left foot and lower half of the leg were covered with a scaly eruption, having numerous fissures. The scales being removed, the subjacent surface presented a red shining appearance, and the scales were quickly reproduced. The right leg and both arms were similarly affected, but in a milder degree. She was ordered an ounce three times daily of the following mixture: Acetate of Potash 6 drachms; water 12 ounces. Mix. Patient was cured of the psoriasis in less than four weeks, but remained in the hospital a fortnight longer, in consequence of cephalalgia. Average quantity of urine passed per diem, 7½ pounds avoirdupois. Average sp. grav., 1·016.

Case IV. Eczema impetiginodes. Margaret M'Callum, æt. 21, unmarried, bleacher, admitted 19th January, 1850. Two months ago, after some pyrexial symptoms, patient observed a vesicular eruption on the upper extremities. It was attended with some itching, and, when scratched, gave exit to a clear fluid, which concreted into yellowish crusts. Of late, however, the eruption had assumed a pustular character. On admission, the skin between the wrist and elbow-joints, and on the forehead and cheeks, was covered with a continuous yellow crust. Pulse 116, full; tongue dry; skin hot. This patient was first bled to 12 ounces, and had a smart purge of calomel and jalap. The blood drawn was buffy. On the next day (the 20th), the pulse being 96, and the febrile symptoms considerably abated, she began the use of the Acetate of Potash in half-drachm doses thrice daily; and I may here mention, that this is the quantity which I now invariably prescribe to adults. This woman left the hospital cured on the 23rd of February, having been under treatment by the acetate one month and three days. It is of consequence to note, that the urine voided during the first twenty-four hours after admission, and before any medicine was given, was only eight ounces, high coloured, and of sp. grav. 1·032; the average amount under the use of the salt, was 54 ounces, of average sp. grav. 1·019. Within the last few days I have been informed by my friend Mr. Menzies, one of the surgeons to the city poor, that the disease re-appeared a short time after the patient left the hospital.

Case V. Eczema impetiginodes. Rachel M'Allister, æt. 31, single, dye-worker, admitted 19th January, 1850. This case was so similar to the fore-

going, that I think it unnecessary to transcribe the details. There was no febrile exacerbation, however, in this case as in the former, the pulse on admission being 84, the tongue moist, and the skin cool. Amount of urine voided during the first twenty-four hours—no medicine having been given—was 32 ounces, of sp. grav. 1·013. She was put on the usual treatment, and subsequently, the average quantity of urine was 78 ounces, of average sp. grav. 1·016. She left the hospital all but cured on the 2d March.

Case vi. Psoriasis, with Extensive Desquamation of Cuticle. Wm. Dorrington, æt. 28, tailor, single, admitted 14th December, 1849. Patient was treated in this house four years ago, for an affection similar to the present. On admission, the skin of the face was dry and covered with white scales, giving the appearance as if a quantity of flour had been applied. There was also extensive desquamation on the back and arms ; the lower extremities, from the knees downwards, being red and somewhat swollen. The gums were slightly tender, which the patient ascribed to the slight use of mercury before admission. As this man was considerably debilitated, I deemed it advisable to improve his general health before having recourse to the Acetate of Potash. Accordingly, for a few days after admission, he was ordered nutritious diet, and the citrate of iron and ammonia. His condition being ameliorated by these means, he began the use of the Acetate of Potash, combined with infusion of gentian, which treatment was continued till he left the hospital cured on the 23rd January, 1850. Duration in hospital, one month and nine days. No record kept of urine. When this patient was treated in the hospital for a similar affection four years ago, he remained there for thirteen weeks.

Case vii. Eczema rubrum. George Morris, æt. 39, weaver, married, admitted 29th November, 1849. A small patch of vesicles was situated on the inside of the right forearm, a little above the wrist. This eruption had appeared about two weeks before, and was attended with considerable prurigo, and when scratched, gave exit to clear fluid. An eruption of about twelve months' standing was situated on the lower extremities, from a little below the knee downwards. This was stated to have commenced in exactly the same manner as the eruption on the arm ; it had a bright red appearance, and the affected surface, especially if scratched, exuded a clear fluid. General health good. Acetate of Potash was administered as usual ; and the amount of urine, which, during the first twenty-four hours after admission, amounted to the unusually large quantity of 4½ pounds, or 72 ounces, speedily and steadily increased, till on one occasion it rose to as high as 11 pounds, or 176 ounces. Under the use of the salt, the average quantity was 120 ounces, of average sp. grav. 1·012. It ought to have been stated, that the sp. grav. of the 72 ounces voided before any medicine was given, was 1·016. This man was dismissed cured on the 22d December 1849, having been in the hospital three weeks and two days.

Case viii. Psoriasis palmaris. Michael Dyer, æt. 14, admitted 29th January 1850. This was a case of psoriasis palmaris of five months' duration, and is presented merely because the patient, being a boy of only fourteen years, took less Acetate of Potash than the usual quantity, the medicine having been given in doses of 10 grains thrice daily. The average quantity of urine voided under the influence of the salt, was 56 ounces, of average sp. grav. 1·017. He remained in the hospital five weeks, and was then dismissed cured.

Case ix. Lepra vulgaris. J. B., aged 15½ years, flesher's apprentice. Five years and eight months ago, an eruption appeared on his hands and head, at first red, and afterwards covered with white shining scales. He was put on the use of vegetable tonics, without benefit, and afterwards sent to sea-bathing, where he remained only a few days, until he was completely covered with the eruption. He was then removed to town, and placed under the care of a medical man, who prescribed the warm bath every night, and the use of

various ointments, some of which were supposed to contain some preparation of mercury. This treatment had little or no effect. The bed-clothes were filled with white scales in the morning. After a considerable interval, he commenced the use of Fowler's solution, and continued it until he had taken several ounces with no benefit. Eight months ago, he began to use the iodide of starch, and continued it for about four months with slow improvement. About the beginning of October last, the appearance of his hands and face was so repulsive, that he was about to be dismissed from his employment. About the beginning of December last (1849) he was seen by me, when I suggested a trial of the Acetate of Potash. The suggestion was adopted, the boy began gradually to improve, and by the end of January, the eruption had entirely disappeared, and has shown no symptoms of return up to the 16th March, 1850.

Remarks. Two circumstances are worthy of notice in these cases, viz: 1. The comparative shortness of the duration of the individual diseases, in pleasing contrast with the proverbial inveteracy of skin-diseases in general: and 2. That the benefit produced in these cases was entirely attributable to the Acetate of Potash. The alkaline warm bath, and fomentation of the affected extremities, were employed pretty generally, in the acuter cases always; but, with the exception of blood-letting in Case IV, of the cathartodiuretic mixture in Case II, to subdue general plethora, and the iron and gentian in Case VI, no other medicine was administered than the Acetate of Potash.

Dr. Easton next proceeds to consider the more prominent effects of the medicine, and how far these may be held to indicate its physiological action, and to explain its remedial efficacy.

1. The administration of the salt was followed by a great increase in the amount of urine. Making allowance for differences in season, and in the state of the atmosphere, and for other causes which are known to influence the secretion of urine, the average quantity voided during twenty-four hours is about 40 ounces, or 2½ pounds. Now, the smallest amount of urine which was voided in the cases under review, was 54 ounces, as in Case IV; while the greatest was 7½ pounds, or 120 ounces, as in cases III and VII, there having been, in the case in which the amount was lowest, an increase of 14 ounces; and in those cases in which it was highest, an augmentation of 80 ounces, over the ordinary quantity. These facts speak conclusively as to the diuretic power of the Acetate of Potash. But the term diuretic is of vague signification; at all events, two very different results follow the administration of different classes of remedies, both which are comprehended under the general appellation of diuretics. Thus, some of these increase merely the amount of the *water* of the urine; others, the amount of its *solid constituents*,—urea, lithic acid, and the salts. Under the former, may be ranked broom, juniper, squill, digitalis, and, to use the language of Dr. Golding Bird, "all those agents which, out of the body, exert no chemical effect on animal matter". Such substances, which Dr. Bird calls renal hydragogues, appear to influence exclusively the Malpighian bodies of the kidneys,—that delicate expanse of capillaries which, as has been shown by Mr. Bowman,[1] separate the water that is discharged from the blood by the renal glands. The facts submitted, then, warrant the conclusion, that the Acetate of Potash increases the water of the urine,—in other words, that it acts as a renal hydragogue.

2. Acetate of Potash possesses also the property of increasing the quantity of the solid constituents of the urine, in so remarkable a degree, as fully to entitle it to be considered a renal alterative or blood-depurant, as well as a renal hydragogue. The elimination from the blood of the solid constituents

[1] Philosophical Transactions for 1842.

found in the urine, may be considered the function of the kidney *par excellence;* for, while this gland undoubtedly separates superfluous water from the circulating mass, it cannot be said to possess a monopoly in that respect, seeing that superfluous water is likewise discharged by the lungs and the skin. But it is specially the office of the kidney, as well to de-acidify the blood, as to rid it of redundant nitrogen,—effecting the former of these objects by loading the urine with acid salts; the latter, by elaborating and excreting urea and lithic acid. Accordingly, the amount of these nitrogenous compounds in the urine, both of which, according to Dr. Bird, are produced from the metamorphosis of nitrogenised elements of worn-out tissue or mal-assimilated food, may be assumed as a measure of the amount of the destructive assimilation of nitrogenised tissues or other matters in a given time; for it may be regarded as a general exceptionless fact, and be enuntiated with the emphasis of a general law, that all soluble matters in the blood, which are either not able, or are not needed, to contribute to the growth and reparation of the tissues, are ejected by the kidneys. Now, while the investigations of Mr. Bowman[1] have shown, as already stated, that the Malpighian capillaries separate the water of the urine, it has also been established by the same distinguished physiologist, that the separation of the solid constituents, or peculiar urinous principles, is effected by the cells which line the tortuous uriniferous tubes, exercising their secreting power for that purpose on the blood of the portal capillary plexus, with which the bodies of these tubes are in intimate contact.[2] The amount of these urinous principles influences, of course, the density of the urine; and while the exact amount of them, which is voided in a given time, can only be determined by a quantitative analysis of that fluid, still, by attending to its specific gravity, we can ascertain whether they be above or below the normal amount. The specific gravity of water being estimated at 1·000, that of healthy urine ranges, as is generally understood, between 1·015 and 1·025; but, from a very painstaking and very extensive observation of this matter, Dr. MacGregor has come to the conclusion, that 1·016 most correctly expresses the specific gravity of healthy urine. If, then, 40 ozs. of urine, of sp. grav. 1·016, be voided on an average in twenty-four hours, is there any mode, short of performing a quantitative analysis, by which we can estimate, more precisely than by merely contrasting the difference between 1·000 and 1·016, the waste of tissue which has taken place during that period? On this point, Dr. Bird supplies practically important information. After urging the necessity of ascertaining the integrity of the blood-depurating function of the kidney, and acknowledging, at the same time, the practical difficulties of doing so by evaporating the urine to as dry an extract as can be obtained, he calls attention to the advantages presented by the more rapid and easy determination of the quantity of solids from the specific gravity of the urine, and then subjoins a table, which he has constructed, for the purpose of ascertaining that point. The peculiarities and the mode of applying this table to practical purposes, will be best gathered

[1] Philosophical Transactions for 1842.

[2] The views of Mr. Bowman regarding the separate functions performed by the Malpighian bodies, and the portal capillaries which issue from them and invest the tubes, are supported by the anatomical arrangement—first pointed out, I believe, by that gentleman—of the renal vessels in the boa constrictor. (*Philosophical Transactions*, 1842.) Additional evidence of the accuracy of Mr. Bowman's opinion has been adduced, incidentally, in a paper by Dr. George Johnson, in vol. xxx of the *Medico-Chirurgical Transactions*, 1847, in which Dr. J. remarks: "Within the last two months, I have examined the kidneys of two persons, who died jaundiced, and in whose urine there had been a quantity of bile. Many of the urinary tubes were stained of a deep yellow colour, by the bile in their epithelial cells. This yellow colour ceased abruptly at the neck of the Malpighian bodies, and in no instance did I observe it in the Malpighian bodies themselves."

from the following sentences :—"Thus, if the specific gravity of any specimen of urine be expressed in four figures, the two last will indicate the quantity of solids in a fluid ounce of the urine, within an error of little more than a grain, when the density does not exceed 1·030 ; above that number, the error is a little greater. To illustrate this, let us suppose that we are called to a patient, the integrity of the depurating functions of whose kidneys we are anxious to learn. The quantity of urine excreted in twenty-four hours amounts, we will suppose, to three pints, or sixty ounces, and the density of the mixed specimens passed in the time alluded to is 1·020 ; now, we merely have to multiply the number of ounces of urine by the two last figures of the specific gravity, to learn the quantity of solids excreted, or $60 \times 20 = 1200$ grains." We may now see how far the function of the kidneys was influenced by the Acetate of Potash in the cases under consideration ; in other words, to what extent the *solid constituents*, as well as the *water*, of the urine, were increased by that salt. In the cases in which least urine was voided—being 54 ozs. in the lowest (Case IV), and 56 ozs. in the second lowest (Case VIII), the specific gravity was respectively 1·019 and 1·017 ; while in those in which the amount was highest, the specific gravity was 1·012 in one of them (Case VII), and 1·014 in the other (Case III)—the average quantity voided by each of these patients having been 120 ozs. To those who take but a superficial view of this matter, the results just stated in reference to the specific gravity in these cases—particularly in reference to that of the two last—may appear inconsistent with the statement, that the Acetate of Potash increases the solid constituents of the urine, and thereby promotes the depuration of the blood. If such be the case, why, it may be asked, is the specific gravity not above the normal standard, instead of being below it ? A moment's reflection will explain the reason, and show that the salt under consideration acts powerfully in promoting the elimination of those peculiar urinous principles, which result from the secondary destructive assimilation of effete tissues, mal-assimilated food, and all abnormal products of low vitality and imperfect organisation. In all the cases, the amount of water holding these solid constituents in solution was materially—in Cases III and VII enormously—increased ; and it must never be forgotten that, if the *same amount* of solid matter be dissolved in a larger or smaller quantity of water, the specific gravity will be proportionally lower or higher. Thus, when the menstruum is much increased, the specific gravity may not be above the normal standard, and yet the activity of the kidneys, as blood-depurating organs, may be very great ; for with the increased amount of water, there is washed out from the blood an increase of the solid urinous constituents also. Connecting this fact, then, with Dr. Bird's table, we shall find that, when 54 ounces of urine were voided, of the sp. grav. 1·019, as in Case IV, the blood was depurated to the extent of 991 grains in twenty-four hours ; while, when 120 ozs. were passed, of the sp. grav. 1·011, as in Case VII, the separation of salts and waste of tissues, as indicated by the criterion of the specific gravity, amounted to 1440 grains in the same period. These results furnish abundant evidence of the power which the Acetate of Potash possesses, in promoting the metamorphosis of tissue, thereby increasing the solid constituents of the urine, and proportionally depurating the blood.

III. This salt is also itself altered in its progress through the organism ; it being well known that the salts of the vegetable acids are all converted in the system into carbonates, and are found as such in the urine. Now it is susceptible of proof, almost of mathematical demonstration, that the benefit derived from the Acetate of Potash in skin-diseases, is owing substantially to its being converted into the carbonate of that alkali. But, before adverting to this change, there are some circumstances connected with the action of the carbonate of potash that require to be noticed. That the carbonate of potash can exercise a transforming influence over organic compounds out of

the body, is undeniable. Thus, albumen, digested with an alkali, is broken up into secondary compounds, yielding leucine, formic acid, and the bodies allied to gelatine, called protid and erythroprotid. In like manner, casein is broken up into tyrosin, leucine, valerianic acid, and other substances. These being some of the effects which this salt produces out of the body, is it too much to presume, with Dr. Golding Bird, "that, when we cause an alkaline carbonate to circulate through the blood, it exerts an influence on the nascent elements of those matters less highly influenced by life, allied to that which it exerts on dead matter, aids their resolution into substances allied to those produced out of the body, and actually causes the matter to assume so soluble a form as to allow of its ready excretion?" This notion may be objected to as savouring of materialism, and as tending to lower the controlling influence of the vital principle from its high place in the creed of the physiologist as a cardinal doctrine of his faith. But every one knows that, so long as the body is endowed with the vital principle, it can resist, in manner most mysterious, those humbling alterations, which so speedily ensue when, separated from its nobler associate, it becomes the subject of resistless change and elemental resolution. Chemical affinity can effect great changes—but it is not omnipotent; for where is its potency, when the acid gastric juice is not permitted to prey on the living stomach, and what power is it, but life itself, which gives to that otherwise unprotected organ a perfect immunity from such a corrosive fluid? But it can scarcely be doubted, that the vital force is not the sole agent in producing the chemical phenomena of life; or that, in bodies of low vitality and imperfect organisation—such as the noxious matters which are produced in the system by disease—the laws of chemical affinity, or of chemical tendency rather, as Dumas expresses it, are uncontrolled. If proof were needed to establish this point, it might be derived from the circumstance, that many compounds, as urea, valerianic acid, etc., which, at one time, were supposed to result entirely from unseen processes in the laboratory of nature, and to be incapable of being formed by any other, are now elaborated with ease by the manipulations of the chemist.

But it may be asked, if the beneficial results be owing to the circulation of the carbonate of potash in the blood, why not administer the carbonate from the first, rather than trust to its production in the system from the decomposition of the acetate? The answer to this objection is found in the fact, that the exhibition of the carbonate, as carbonate, does not produce the effects which follow the administration of the acetate. No doubt, the urine may be rendered alkaline by the use of the carbonate, and the aggregate quantity of the excretion may be somewhat increased—in short, the carbonate may alter the reaction of the urine, may act occasionally as a renal hydragogue, but very inefficiently as a renal alterative.[1] We may then legitimately conclude, that the physiological action and therapeutic efficacy of the acetate are connected in some manner—unknown at present—with the metamorphosis which takes place in itself. With the view of elucidating this matter, it may be advisable to look at the chemical composition of the acetate, and the difference which exists between it and the carbonate. Putting the base out of view, we find that acetic acid is composed of $C_4\ H_3\ O_3$;

[1] While conducting a series of experiments, with the view of establishing this point, my zealous clinical assistant, Dr. James Wallace, observed, in two cases, that the urine contained copious deposits of the triple phosphate, and, what is singular, that these appeared immediately after the use of the acetate had been stopped. These deposits were probably owing to the urine, now diminished in quantity by the withdrawal of the salt, being no longer able to hold the phosphate in solution. Be this the explanation or not, the observation of such deposit is of practical interest, and imposes the necessity of examining the urine microscopically in all cases when giving the acetate, and immediately to intermit its use when a phosphate makes its appearance.

and that carbonic acid is composed of $C\,O_2$. Now, as the hydrogen and oxygen are in equal proportions in the acetic acid, it is clear that these elements will unite to form water, and will leave, consequently, four atoms of free carbon to unite with any body for which it has an affinity. But we are not left in doubt as to the individuality of the body with which the carbon combines; for we find that carbonic has been substituted for acetic acid; and this could only have resulted from the union of carbon with oxygen. We know, further, that eight atoms of oxygen must have been furnished, to convert the four equivalents of carbon of every atom of acetic acid into carbonic acid. The changes which acetic acid undergoes will be made more apparent from the subjoined diagram:

CONVERSION OF ACETIC ACID INTO CARBONIC ACID AND WATER.

1 eq. Acetic Acid	-	C_4	O_3	H_3	4 eq. Carbonic Acid	-	C_4	O_8	—
8 eq. Oxygen	-	—	O_8	—	3 eq. Water	-	—	O_3	H_3
Total	-	C_4	O_{11}	H_3	Total	-	C_4	O_{11}	H_3

It becomes a matter of great interest, then, though unfortunately one of great difficulty also, to ascertain whence this large amount of oxygen is supplied. Any opinion on this point, must, in the present state of our knowledge, be purely conjectural; yet we may hazard a few speculations on the subject, which, though they may not carry conviction, may excite inquiry, elicit discussion, and perhaps conduct to knowledge.

There are only three sources whence the oxygen can be furnished—from the food, the atmosphere, or the organism; including, by this last term, all the products, normal and abnormal, which exist for the time being in the system. For obvious reasons, there was no great likelihood of the oxygen having been derived from the food of the patients. It is the opinion of Liebig, that the salts of the vegetable acids, which are converted in the system into carbonates, obtain the supply of oxygen necessary for the purpose during respiration. This, however, is merely an opinion—certainly not supported by demonstrative evidence, and not even by a reason *why* these salts should appropriate oxygen in their passage through the lungs; and there are one or two circumstances which are entitled to consideration as militating against it. In the first place, the speculation assumes that the decomposition and reconstruction of these salts are effected in the lungs, and leaves out of view the more likely influence of digestion. Again, this opinion presupposes a greater activity of the respiratory process, while such salts are making the transit of the lungs—an event not appreciable, certainly, by any increase in the number of the respirations. And, if more oxygen be not withdrawn from the air, and it be maintained, notwithstanding, that the supply of the gas necessary for converting acetates, etc., into carbonates, is furnished during respiration, then the advocates of that opinion are shut up to the conclusion that, in order to effect the alteration of certain salts, some part or parts of the organism are deprived of a portion, or, for anything we know to the contrary, of *all* their oxygen,—a procedure scarcely in accordance with the general tendency of nature's operations. A theory at least as plausible as this, and one as much in unison with ascertained facts, can be constructed, by supposing that the necessary oxygen is derived from the organism itself. That the effete portion of the organism is being continually disintegrated and resolved into a variety of new forms in the capillary laboratory of the system, is well known and undeniable; is it too much, therefore, to suppose that, amid these ever-varying transitions, a vegetable acid may be broken up and altered, by being brought within the sphere of nascent oxygen, evolved from compounds yielding to the resistless influence of the secondary destructive assimilation? But the solution of this interesting problem in the chemistry of therapeutics must be left to future observers.

OXIDE OF SILVER FOR THE EXPULSION OF TAPE-WORM.

Mr. H. T. Whittell, of Birmingham, suggests, in the *Lancet* for June 29, the use of Oxide of Silver in cases of Tape-Worm. He says: "I am induced to suggest this remedy in consequence of having seen, in two cases under my care, the most beneficial results from its employment; and, so far as I may form an opinion from so small a number of cases, I am disposed to prognosticate a favourable issue from the trial. The first case which came under my notice, was that of a female of middle age, who, at different times, for the space of about ten months, had been under my care, complaining of various anomalous symptoms, which were supposed to arise from the presence of worms in the intestinal canal. I administered turpentine, on two different occasions, for three successive mornings; but although slight benefit was obtained on each occasion, I only succeeded in bringing away some few joints. At the end of the tenth month, I had occasion to prescribe for this patient, who was then suffering from menorrhagia, one grain of the oxide of silver three times daily, with an ounce of mixture containing six drachms of bitartrate of potash in the half-pint. After she had taken the fourth dose, I was agreeably surprised to learn that she had evacuated a large quantity of tape-worm, and that she felt better than she had done for many months previously. After this time she remained free from the symptoms she had before manifested for some nine or ten months. A few weeks ago, she again applied to me for a repetition of the dose; the oxide was again given, with the same effect as before. In both instances, the worms were dead when passed.

"The second case is that of a married lady, who came under my care a short time ago, complaining of dyspeptic symptoms. She explained to me that she had suffered from tape-worms for some years, and had taken occasionally medicines, with the view of their removal, but she had never taken turpentine. I prescribed one grain of the oxide three times daily, with a mixture of bitartrate of potash as a purgative. After the third dose, she passed a large mass of the worm, and continued to do so for one or two days afterwards, during the use of the remedy. Marked alleviation of the symptoms was the result. In this case, as in the former one, the parasite was dead when passed.

"Although nothing conclusive can be obtained from these two cases, I think the effects so marked in each, that it would be well for some gentleman, who has a large public practice, to endeavour to ascertain what may be the value of this agent in the cases named; and, if found as successful in other hands as it has been in the two cases given above, the oxide will prove to be an invaluable remedy in cases which, at the present time, we all find to be sufficiently perplexing."

FEVER IN HOSPITALS AND OUT OF THEM.

Dr. James Adams of Glasgow has published, in the *Monthly Journal of Medical Science* for August 1850, a valuable statistical paper on the above subject. We extract from his communication a summary of results, referring our readers to the original paper for the statistical evidence forming the groundwork of his remarks.

The chief conditions likely to affect the mortality in fever are, 1. The type of fever; 2. The sex and age of the patients; 3. The duration of illness prior to coming under treatment.

Allowing for the circumstance, that many of the more severe cases of continued fever, in the practice of district surgeons, are described as typhus, it is still abundantly evident, that the number of cases of typhus, or the malignant form of fever treated in hospital, does not exceed the number treated in out-door practice.

The greater mortality of fever in hospitals over out-door practice, is not owing

to an excessive proportion of cases of that sex (male), and at those periods of life, in which fever proves most fatal.

The mortality from fever, both in hospital and in out-door practice, is lessened when the cases are brought under treatment at an early period of the disease. But the greatest proportion of cases are brought under treatment at as early a period as could be reasonably anticipated. Moreover, statistical evidence, as well as personal testimony, shews that no unnecessary delay takes place on the part of the district surgeons, in sending their cases into hospital; for fully *one-third* of the cases thus sent into the Glasgow Fever Hospitals, were sent within a few hours of being attacked, and not more than a tenth are removed to hospital after the third day from being first seen. Both in out-door and in hospital practice, the mortality steadily increases with the lateness of the period at which the patients are first seen; but the rate of mortality in hospital is so disproportionately large, from the very commencement, that, although all the cases treated there had been received within the first few days, the gross mortality would not be greatly diminished.

The aggregation, in one building, of a number of human beings in a state of disease, re-acts with deleterious influence, and lowers the general tone of vitality of the whole inmates. In 1847, the ratio of mortality increased and diminished simultaneously with the increase and decrease of the number of patients in the Glasgow Royal Infirmary. The mortality in the temporary hospitals was less than in the infirmary; but it would probably have been equal, if the buildings had been previously occupied as fever hospitals, and their wards impregnated with miasmata engendered by long concentration. The structure of these buildings, which were temporary wooden sheds, and were consequently well ventilated, also probably had a salutary influence.

Some influence must also be ascribed to the moral effects upon the weakened mind of a patient, who finds himself suddenly removed from his friends, and tended by strangers, and surrounded by the dying and the dead of the hospital ward.

The mere transference of fever patients to hospital, has an immediate effect on the general mortality. From statistical evidence, it is shewn, that while the ratio of mortality is regular and progressive in out-door practice, there is in hospital an irregularly and suddenly increased proportion, who die within the first few days after their admission, and prior to the critical period. Dr. Adams has "been told of patients dying on their way to the hospital; of others, who, on their arrival, were in such an extreme state of exhaustion, that there really was not time to have their names transferred to the medical books ere they expired; and he has seen entries in fever hospital books of patients, who, on their arrival, were placed in the *customary warm bath*, and who actually 'died in the bath!'"

Fever hospitals are in many respects injurious; but they are necessary evils, and Dr. Adams would even approve of their number being increased in Glasgow, provided that the barriers which prevent the prompt and free admission of patients were done away with. "I would approve", he says, "of the erection of *district hospitals* (as first recommended by Dr. Cowan), small, unpretending edifices, capable of accommodating fifty or sixty patients, and established in those situations where fever is known most to prevail. Cases do occur—and will, it is probable, always occur—where, but for the fever hospital, our senses would be outraged by the spectacle of the sick, miserable poor, clogging our streets and bye-lanes, and dying unrelieved, under circumstances which precluded the possibility of effectual relief being afforded. A readier admission into hospital would secure a larger proportion of early cases,—an increased number of hospitals would lessen the distance which the fever patient is to be carried, and so far lessen the exhaustion, and consequent risk, incurred by the fatigue of removal,—while the increased accommodation made available, would lessen the dangers connected with overcrowding, defective ventilation, and a necessarily vitiated atmosphere."

PARALYSIS OF THE BLADDER TREATED BY STRYCHNINE.

Case I. A man, aged 68, one day indulged, contrary to his custom, in excessive drinking, and returned home in the cold very late at night. On experiencing a sudden desire to pass urine, he was astonished to find that his efforts were unavailing. The next day, the catheter was passed by M. Lecluyse. Numerous medicines, among which were copaiva, turpentine, stimulant diuretics, cantharides, and ergot, were tried without effect. M. Lecluyse then administered strychnine, of which the dose was gradually increased to five centigrammes (.77 of a grain) in the day. This induced spasmodic contractions of the trunk and limbs, but the bladder remained unaffected. Its use was then intermitted for a fortnight, at the end of which time M. Lecluyse resolved to try its effect in injections. He dissolved thirty centigrammes (forty-six grains) in a little alcohol, and further diluted it with five hundred grammes (about sixteen ounces) of water. Of this he injected, on each of four occasions, thirty grammes, having previously emptied the bladder. The organ at first seemed insensible to the remedy; but, in a few days, the patient found that the urine escaped from between the catheter and the urethra. On removing the catheter, the patient found himself enabled to pass urine in the natural manner. The affection has not returned. [*Journal des Connaissances Médico-Chirurgicales*, 15 April, 1850; from *Annales de la Soc. Méd. d'Emulation.*]

Case II. In a case of Paralysis of the Bladder, following concussion of the spine produced by a fall on the back, strychnine was administered, by the endermic method, fourteen days after the accident. A quarter of a grain was sprinkled twice daily on denuded surfaces on the arms and legs. In two minutes, painful contractions of the extremities were produced. The strychnine was increased to three grains per day in a week, and to four grains in a fortnight. The contractions of the limbs became more violent; and, on the twenty-fifth day, the urine began to pass freely. The patient has remained cured for four years. [*Ibid.*, 15 June, 1850; from *Medicinisches Correspondenz-Blatt Bayerischer Aerzte.*]

DR. C. FLEMING ON A PECULIAR FORM OF GLOSSITIS.

In a paper on Diseases of the Tongue, published in the *Dublin Quarterly Journal of Medical Science* for August 1850, Dr. Christopher Fleming describes a form of inflammation, comparatively rare, but deserving of notice from the special symptoms attending on it. It is an *inflammation, circumscribed or diffused, originating in the loose areolar tissue between the genio-hyoglossi muscles;* commencing first like ordinary Glossitis, but soon characterized by peculiar features. It generally attacks adults. Dr. Fleming has seen it once or twice, in a mild form, in children, but probably not as a primary affection. It is isolated, and apparently idiopathic.

The Symptoms of the affection are thus described by Dr. Fleming:

The first symptom is that of uneasiness in the movements of the tongue, and the sensation as if there were a lump or ball at its base, which creates a desire for frequent acts of deglutition. In its earliest stage, the motions of the jaws are painful and much curtailed. These local symptoms are soon accompanied by ordinary symptomatic fever, usually of the sthenic type, yet not unfrequently assuming the typhoid or asthenic character. Another train of local symptoms, in the vicinity of the affected organ, also supervenes. There is fulness under the chin, between it and the os hyoides, giving the appearance of a double chin. Pressure here, especially near the os hyoides, is very painful, and often leaves a dimple of œdema in the integuments, which, in other respects, are healthy-looking. Should the case advance without interference, the countenance assumes a peculiar aspect. Articulation and deglutition are more and more interfered with, and, at last, almost wholly

obstructed; the voice is guttural, and the saliva dribbles over the chin. The integuments now become more engaged, and gradually assume a diffused red appearance, circumscribed or otherwise, according to the stamp of the inflammation. The swelling, in some cases, spreads laterally, so as to occupy the whole fore part of the throat; and, in some rare cases, an attempt at pointing is manifest, and in others, still more rare, an absolute gangrene of the integuments takes place. Of this, I have seen but one case. These symptoms, though severe, are the least important. Independent of the prostration attendant on the fever, on the impeded respiration, and on the loss of power of deglutition, the risk from mechanical pressure on the epiglottis is seriously to be apprehended. Suppuration advances; and, whether circumscribed or diffused, tends towards the base of the tongue. It dissects the extrinsic muscles, injures the periosteum, and lays bare the inferior maxilla. If the inflammation be diffuse, the fever will probably destroy the patient long before the local symptoms have reached their acme.

The Diagnosis cannot be difficult, if the prominent features of the case are borne in mind. The sensation of fulness at the base of the tongue, the tenderness on pressing its dorsum, the gradually-limited motion of the jaws, the fulness and tenderness under the chin, the increase of that fulness, ultimately and rapidly complicating the integuments,—all these local symptoms, combined with severe constitutional disturbance, can leave little doubt as to the nature of the case.

The Treatment is simple, but must be decided. In the first stage, ordinary antiphlogistic remedies may be employed, and great relief will be obtained from free leeching under the chin; but should the symptoms not yield readily, or the case not be seen till an advanced stage, no means can compete with an incision in the median line, through the integuments and fasciæ under the chin, and fairly through the raphe of those muscles which delay the advancement of the suppurating process. Here free incisions must be made; and the passage of the finger through the wound, to a considerable depth, will discover the muscles flabby and detached from each other, and the interstices filled with purulent matter, occasionally very fetid. The after-treatment and progress of the case must be obvious. Should the periosteum have been engaged, and the bone denuded, a proportionate delay will take place in the reparative process, and more than probably exfoliation will occur.

DR. C. FLEMING ON TUBERCULAR AFFECTION OF THE TONGUE.

The following is a further extract from the paper by Dr. Fleming, on Diseases of the Tongue, above referred to.

"Cases are occasionally met, where the tongue is studded with Tumours, apparently developed in its substance, and gradually extending towards its upper or lateral surface, or both. These tumours grow imperceptibly, and acquire some size before they attract attention. Of this, the following cases are examples:

"Case I. M. D., a married woman, aged about thirty years, applied to me complaining of all those sensations attendant on diseases of the mouth,—painful deglutition, rendered more so by any stimulating or solid food, and a feeling on the tongue as if it were blistered. Her mouth was always filled with saliva, often distressingly and profusely, especially during sleep; her articulation was painful and thick, and her health was breaking down, as well from this ailment as from the mental anxiety attendant on its obstinate resistance to treatment. Various gargles had been recommended, and various remedies used, without benefit; and she was pallid, anxious-looking, and attenuated. On examining the mouth, the tongue, at its apex, and extending an inch or so towards the dorsum, was full, irregularly swollen, and the mucous membrane abraded in small patches, both on its upper and under aspect. Some of these patches were clean and raw-looking, while others were

covered with a whitish tenacious substance. On touching them with the finger, tumours, about the size of ordinary garden peas, could be felt, corresponding with each abrasion ; others, again, were to be found imbedded in the substance of the tongue. No other morbid lesions could be detected, and no ground existed for the slightest suspicion as to syphilitic taint.

"Case II. Thomas Hayden, aged 35, an hostler, dates the affection of the tongue, under which he labours, to April 1849. It then commenced in the form of a blister, and he was disposed to attribute it to smoking. He had medical advice from a practitioner in his neighbourhood in the country, by which he was temporarily relieved ; after four or five months, he came to town, the disease in the interim having gradually advanced to its present stage. He is a married man, and has healthy children. About four years back, he had gonorrhœa, but he never had any venereal sore, excoriation, or bubo. His health is good, and he is free from any additional ailment.

"When the man presented himself to me in the month of August, he stated that his tongue was his sole complaint, that he felt it full and too large for his mouth, that its motions were painful and stiff, and its several functions impaired. He was obliged to use fluid or soft nutriment, and to avoid anything stimulating. He was much annoyed with the profuse secretion of saliva, and has occasional lancinating severe pains in the ears, and along the back of the neck, darting towards the temples. He had no disagreeable discharge from the mouth, and was free from much pain if he avoided any local irritation. On questioning him closely as to the mode in which this disease commenced, he stated that he first felt a tumour in the tongue near its centre, about the size of a small marble ; that a blister formed on its surface ; that it ultimately ulcerated, and that a succession of these were superadded. The aspect of the disease was very formidable ; the organ was generally hypertrophied, its central portion occupied by a deep ulcerated cleft, extending about an inch and a half in its longitudinal axis, and more than half an inch in depth, and branching off into irregular fissures on each side. The edges of the ulcerations were rugged and hard, and the surface was of a dirty white colour. The intervening portions of the tongue were of a fiery red hue, extremely tender to the touch, and almost devoid of any appearance of papillæ ; on compressing the tongue between the fingers, isolated tumours of various sizes, from that of a pea to that of a horse-bean, could be distinctly felt ; and both on its upper and under surfaces, the epithelium in the site of these tumours was abraded where ulceration did not exist. There was no evidence of any other lesion in the neighbourhood. The aspect of the man was as healthy as could be expected from the description of food to which he was necessarily limited, and he found himself fully equal to his work.

"The local treatment used was the occasional application of nitrate of copper, alternately with oxymel æruginis ; and the constitutional remedies employed were blue pill, hemlock, and iodine, in combination with potash and preparations of iron. The improvement in the ulcer, from the application of the nitrate of copper, was rapid, and that before any effect could be calculated on from the other remedies. The cure, at one period apparently effectual, has since been retarded by returns of ulceration at irregular points of the cicatrices ; but these were immediately checked by the nitrate of copper, and, I have no doubt, will ultimately yield to a persistence in the constitutional treatment suited to cases of the kind.

"Case III. P. G., aged 22, unmarried, a teacher in one of the National Schools, applied in March, 1850, with a disease of the tongue, which rendered his articulation so thick and so indistinct, as to cause him to dread the loss of his situation. To particularize his prominent symptoms, would be in reality little more than a recapitulation of those noted in the last case. The disease commenced about two months previously, in the shape of small kernels, as he termed them, in the substance of the tongue. These became identified

with the mucous membrane, which was abraded over some, and ulcerated over others, and they subsequently assumed their present character; the portion of the tongue in their interstices becoming swollen and painful. He had always enjoyed excellent health, and his general appearance was indicative of it. He had never been exposed to syphilis, and was free from any other local or general complaint. The only discernible lesion was that in the tongue. The left half of the tongue was hypertrophied, so as to project beyond the apex on that side; about its centre, approaching the median line, was a deep ulcerated cleft, with irregular edges, a foul surface, of a dirty whitish colour, with the sides firm and solid. The substance of the tongue around was full and swollen, and of a bluish pink colour. Its whole aspect was that of a formidable and painful disease, yet the latter character was comparatively absent. On compressing the tongue, small, solid, and fixed tumours were to be felt deeply imbedded in it; and on looking more accurately at both the dorsum and under surface, the epithelium could be seen abraded in one spot, the mucous membrane ulcerated in another, and in a third a small ulcerated slit, through which a probe entered and made its appearance in the cleft at the top. Each of these spots, when pressed on, gave the sensation of a hard pea, and they were similar in all respects to those mentioned above. I touched the ulcerated spots with nitrate of copper, directed in the intervals a borax wash, and put the man on iodide of iron and hemlock. This occurred on the 25th of March. I did not see him again until the 13th of April, when I find the following memorandum in my note book: 'Improvement most striking and most rapid. Nitrate of copper acted almost magically, and from merely one application; the benefit of the iodide of iron and hemlock most marked; he has taken of each about one drachm. The tubercles which were in progress have diminished in size and in consistence; and the seats of ulceration have in part absolutely healed, leaving their cicatrices smooth, and the adjoining structure of the tongue much softened, and less irregular.' On the 11th of May I find it noted, that the progress of the case was equally favourable, and all ostensible marks of the disease removed, under the same general remedies, with little variation as to dose; but, as in all the cases I have seen, it is curious enough that just at this stage there is a disposition to partial relapse.

"Remarks. I have selected the above cases, as being good illustrations of this Tubercular Affection of the Tongue. It is by no means a common form of disease; yet a year seldom passes, during which one or more cases will not be met with in extensive dispensary or hospital practice. In private practice, it is still more rare. It would appear to me to be a form of lupoid disease attacking the tongue. It is as insidious in its outset; it commences not unlike it, in the form of an adventitious deposit; its progress is equally protracted, and its cure deceptive; and it also bears a very striking resemblance to it in its comparatively painless character, when we consider its formidable-looking appearance, and in the perfect listlessness and apathy with which it is borne. I may add, moreover, that the similarity is not lessened by reflection on the treatment suited to both. Children and adults are most commonly the subjects of this affection, the former by no means as rarely as we might be disposed to think; and I have seen the disease in them in its most aggravated form, although the subjects of it have all the ordinary features of good bodily health, in the common acceptation of the term; yet there is often present some indication of the strumous diathesis. The symptoms are so fully described in the cases I have now narrated, that it is unnecessary to enter into further details. From them, it is evident that the tongue may be partially or wholly engaged, that the adventitious deposits may be single or otherwise, and that, in several stages, they will assume peculiar characters. The disease is not malignant; it is curable, but often very slowly so, and more especially when ulceration has been established. In the latter instance, the appearance of the organ when

healed is very characteristic; smooth, cicatrized sulci, totally devoid of even the semblance of papillæ, occupy the seats of the former ulceration, and are permanent there, dividing its surface into so many deep furrows of different shapes.

"This affection may be confounded with syphilitic or cancerous disease, and hence the surgeon should be on his guard. Its diagnosis from the former may be occasionally attended with some difficulty, especially in its more advanced or ulcerating stage; but, even admitting that the syphilitic affection should be a solitary symptom, which is rare, I think that attention to the rules laid down by writers must enable the surgeon to come to a proper decision. His mistake, if he err, will, however, be remedied by subsequent results, and the agents used are comparatively innocent, and are likely to be beneficial, in most instances, to both diseases. Not so as regards cancer; here his diagnosis is all-important, and requires the greatest circumspection. Respecting it, however, I am satisfied there can be no difficulty, if the main outlines of the affection to which I have alluded are borne in mind, especially its almost painless character and slow progress, and the trifling inroad it makes on the surrounding textures or on the constitution, even after a very prolonged duration.

"The treatment which I have found most successful, is that specified in the above cases; and the combination of iodide of iron with hemlock appears to be the best. In obstinate forms of the disease, some of the milder preparations of mercury may be requisite; but, in all, the means employed must be continued for a lengthened period. I have tried many local applications, and amongst others, the acid nitrate of mercury, but I have found none equal to the nitrate of copper. It is most invaluable as an application to this class of ulcer; and I may remark, that it will be found equally so in many of those small excavated ulcers of a semi-phagedenic character, which occur on the genital organs both of the male and of the female. It is a very deliquescent salt, and can be applied only in the liquid state. The surface of the ulcer should be well dried before it is applied, and afterwards covered with oil; and it should be borne in mind, as regards the tongue, that the superficial appearance of the ulcerated surface is often most deceptive, as the disease burrows very deeply. The best mode of fixing the tongue, for the purpose of applying the caustic, is by means of the fingers and thumb, a portion of lint, linen, or a towel being interposed, so that it cannot slip; and the best instrument for the application is a small piece of cedar, as prepared for paint-brushes, the ends of which may be covered with lint or French wadding, one end being dipped in the nitrate of copper, the other in the oil, whereby no delay or confusion can ensue."

DR. STOKES ON GANGRENE OF THE LUNGS.

In a paper on Gangrene of the Lungs, published by Dr. Stokes in the *Dublin Quarterly Journal of Medical Science* for February 1850, we find the following conclusions drawn by him, as apparently justifiable from the present state of our knowledge on this subject.

1. Gangrene of the Lung is met with under a variety of forms, differing from one another, not only in the duration and violence of their symptoms, but also in their relations to various local and constitutional diseases. 2. In a great proportion of cases, the disease is attended with putrefactive action engaging the necrosed portion of the lung, and affecting the secretions. 3. In the progress of a case, we may observe the septic action singularly variable. It is increased by over-stimulation of the system. 4. We cannot explain the symptoms in many cases of this disease, without assuming, either that a spot of mortification, so small as to be undiscoverable by physical means, causes severe symptoms, and is attended with super-secretion; or that a process of putrefactive secretion precedes, in many cases, the death of the lung. 5. Pain of the most extreme kind may attend this disease; and, in the remittent

form, may appear on each access of the affection with unmitigated violence. 6. The contact with air is not necessary for the formation of a gangrenous eschar or cavity. 7. Hæmoptysis commonly attends each access of the remittent disease. 8. In the earlier periods of this disease, auscultation and percussion often fail in detecting any signs of organic change; or if such be discovered, it appears incommensurate with the gravity of the symptoms. 9. In many cases, the evidences of congestion and parenchymatous infiltration seem to follow, rather than precede, the symptoms of gangrene. 10. Dexiocardia, from diminished volume of the lung, may occur in gangrene of the right lung. 11. Gangrene may attack a lung previously hepatized from ordinary inflammation, or in a chronic tubercular condition. 12. From the pre-existence of signs and symptoms of the stages of pneumonia, or from the early appearance of signs of excavation, we may be able to distinguish between fetid abscess of the lung and gangrene. 13. In certain cases of chronic bronchitis, the breath and expectoration may become fetid, and yet no gangrene appear to have formed. 14. The diseases, with which gangrene may be found complicated, are divisible into general and local affections; but its occurrence in the class of general diseases, termed putrid or asthenic, is much more rare than might be expected. 15. It is rarely observed in the typhus fever of this country, even where the secondary bronchial affection is intense; but in typhoid pneumonia it may be occasionally present. 16. It may complicate a previously existing disease of the lung, such as pulmonary tubercle, or an unresolved hepatization. 17. It may be directly induced by the pressure of a tumour on the nutrient vessels and nerves of the lung: so that, in cases of cancerous or aneurismal tumour, the patient may die, not from the extension of the original disease, but from its inducing a rapid mortification of some portion of the lung. 18. The disease, though always of a formidable character, is not necessarily fatal.

CHRONIC EMPYEMA CURED BY PARACENTESIS THORACIS.

Dr. Peddie relates the following case in the *Monthly Journal of Medical Science* for August 1850.

Case. R. N., aged 26, a picture-frame maker, was suddenly affected in January 1846, after complaining for some weeks of slight cough, with what he understood to be pleurisy of the left side. He was cupped and blistered, took mercury and iodide of potassium, and tried sea-bathing, but without benefit. He was admitted into the Minto-House Hospital on the 27th of October, 1846.

On admission, he was found labouring under very considerable debility, and distressing breathlessness, and palpitation on the slightest exertion. The left side of the chest was greatly enlarged; the intercostal spaces were filled up, and inspiration produced no movement of expansion on this side. Percussion on this side was universally dull, and especially stone-like beneath the mammary region; and not the least vocal vibration could be felt with the hand. On auscultation, bronchial respiration and bronchophony were distinctly and extensively heard; but there was no ægophony. On the right side, there was dulness on percussion and indistinct respiratory murmur in front; but the latter was clear and puerile in other parts. The heart lay between the sternum and mamma on this side, its apex striking the chest about an inch below and external to the nipple. The impulse and sounds were normal, except a very slight prolongation of the second sound, not amounting to a *bruit*. Paracentesis was considered to hold out the only prospect of recovery; and the operation was accordingly performed by Mr. Syme, and repeated by him and Dr. Peddie at various intervals. The instrument employed was a trocar, about one-eighteenth of an inch in diameter, and $2\frac{3}{4}$ inches in length. The parts selected for operation were different points,

between three and four inches external to the nipples, in the sixth and seventh intercostal spaces. The following table exhibits the dates of the operations, with the amount of purulent matter drawn off each time.

No. of Oper.	Date.	Drawn off in oz.	No. of Oper.	Date.	Drawn off in oz.
1	Oct. 31, 1846	21	7	Sept. 30, 1847	112
2	Nov. 7, —	50	8	Feb. 1, 1848	72
3	— 14, —	34	9	May 18, —	57
4	April 9, 1847	40	10	Aug. 19, —	37
5	— 15, —	26	11	Feb. 27, 1849	67
6	July 8, —	79	12	Jan. 4, 1850	26

Total amount removed ... ... 621 ounces.

Each operation was followed by improvement in the health and strength; and the configuration of the chest, and the respiration, underwent steady improvement. The left side regained at last some power of movement; and the heart was close to the sternum on the right side. In the three last tappings, some force was necessary to introduce the trocar, probably from the thickness and hardness of the pleura. The quantity of fluid, which was secreted at the rate of fifty-six ounces per month, from November 1846 to September 1847, came down gradually after the latter period, until, on the 4th January last, it had arrived at the rate of little more than two ounces per month. The fluid was sero-purulent at first, then pure pus; but, at the first tapping, a considerable amount of serum separated from the pus.

The patient considers himself cured, and has felt so strong and well, that he has married. He states that he is capable for any ordinary exertion, and can lie on either side without oppression of breathing: and he does not consider that there is any material change in the configuration of the chest, except slight depression of the shoulder, and a tendency to stoop, which he states to have existed before the inflammation occurred Of course it must be admitted, that probably less than a third of the lung of the left side is fitted for respiration; that there is an enormously thickened pleura, with strong adhesions; and that the heart is permanently dislocated from its own compartment of the thorax. Notwithstanding this, the case must be considered as satisfactorily cured, since the functions of respiration and circulation are carried on compatibly with existence; the strength is re-established, and fully adequate for the duties of his calling; and, instead of feeling life as a burden, he is now in a condition, and is seeking, to enjoy it.

Dr. Peddie is in favour of performing the operation of paracentesis, as a general rule, whenever pus is detected in this way; and says, that the operation should be repeated from time to time. In the case of N., the fluid was at first drawn off in divided portions; but it was soon found, that the whole could be removed safely at once. To prevent the admission of air, he uses a very small trocar and canula, so that any large rush of air is impossible; he prohibits conversation during the flow of the fluid, so as to maintain equal and easy respirations, and prevent any suction power. The effects of admission of air have been much exaggerated; and the experiments of Nysten and Speiss prove that, when introduced into the pleura, it is removed by absorption in a few days. Dr. H. Roe, when he speaks of the difficulty of preventing the admission of air, if more fluid be withdrawn than can be replaced by the expanding lung, seems to Dr. Peddie to have overlooked the collapse of the thoracic parietes on all sides by atmospheric pressure.

In pointing out that this case showed very clearly the diagnostic marks of pleural accumulation, Dr. Peddie observes, that the duration or chronicity of the affection, may suggest the quality of the fluid contents of the chest, and thus form a valuable aid to diagnosis. A purulent product may be formed early in pleuritis; but then it is generally in unhealthy, strumous subjects, and the amount of fluid is not large. In the more chronic cases, many are no doubt purulent from the first; but it is probable that, in most cases, the membrane

has first secreted serum, then pus. This, Dr. Peddie thinks, may be proved from cases in which an early operation produced serum ; a second, serum with albuminous matter floating in it ; and a third repetition of the operation, sero-purulent matter, or true pus. The rapidity of this change will depend on the constitution of the individual.

Dr. Peddie thinks the following to have been the order of progress of pathological change and recovery in the case related. Layer after layer of adventitious membrane was formed on the pulmonary and costal surfaces of the pleura, especially the latter, adding progressively to their thickness : that, after each tapping, agglutination took place from above downwards, and that this, with a slight re-expansion of the lung, the ascent of the diaphragm, and a very complete collapse of the thoracic walls, effected obliteration of the cavity, with the exception of the supra-mammary and vertebral regions ; which were no doubt walled in by stout adhesions at a very early period.

MR. W. F. BARLOW ON CERTAIN REMARKABLE PHENOMENA OBSERVED AFTER DEATH FROM CHOLERA.

The occurrence of several interesting phenomena, in persons who died of Cholera, has been made the subject of the following communications by Mr. W. F. Barlow.

1. On the Muscular Contractions which are occasionally to be observed after Death from Cholera. (Read before the Westminster Society, Oct. 20, 1849 ; Med. Gaz., Nov. 9, 1849, p. 798, and *London Journal of Medicine*, Nov. 1849, vol. i, p. 1080.)

2. Observations on the Condition of the Body after Death from Cholera. (*Medical Gazette*, July 5, 1850.)

These papers have also been published in a separate form. The following is a brief abstract of Mr. Barlow's observations.

Muscular Contractions after Death. We gave, in the London Journal of Medicine for November 1849, an outline of the cases in which this phenomenon had been observed by Mr. Barlow. He, as well as others, have observed the voluntary muscles to contract after death, in such a manner as even to lead to the idea among the friends of the deceased, that the patients were not actually dead. He suggests the following inquiries, as forming fit subjects for investigation.

"Do the muscular movements happen exclusively in those cases where patients expire in 'collapse' ? Are those persons most prone to them who sink with unusual rapidity, and suffer to an uncommon degree from cramps ? Are strong and muscular persons especially subject to them ? Do they more particularly affect the muscles, which were the chief seats of cramp in life-time ? What is the most usual time of their occurrence ? What is the longest period known to elapse between death and their commencement ? What is the greatest extent of their duration at present known ? Can they be readily excited and aggravated ? and, if so, what stimulants are most efficacious ? In what proportion of instances do they occur ? Supposing them to affect many parts, in what locality do they, generally speaking, first appear ? Are they a renewal of those actions, which, during life, occasion the cramps whereby so many are tormented ? or are they to be considered as *peculiar* movements occurring in the dead body alone ?"

Mr. Barlow points out, that these movements must be distinguished from all actions artificially excited ; and, if they should be proved to be excited or aggravated by certain artificial stimuli, a distinction must be drawn between those which happen and those which are provoked. He believes them to be caused by a stimulus acting within the muscles, and to most resemble the spasms which occur during life in cholera. They resemble rigor mortis in at least one respect, viz. in affecting parts in *succession*.

Retention and Increase of Temperature. In a case which occurred at Bristol in October 1849, and on which an inquest was held, the following phenomena occurred after death. The account was given to Mr. Barlow by Dr. Green, Surgeon to the Bristol Infirmary.

"At 6 A.M., Oct. 13th" (five hours after death) "I saw the body. The skin was warm, limbs not rigid; features not collapsed. 6 P.M. The body was taken from the coffin, in which he had been screwed down; it was found still warm and in the same condition as in the morning. The entire body and extremities were then closely packed in saw-dust. *Oct.* 14. Had remained in the saw-dust; the warmth still continued; there was no rigidity; a vein in the arm was opened, but no blood came. 12 A.M. Tepid salt and water were injected slowly in a vein in the arm; powerful galvanic shocks were passed from the back of the neck, in the direction of the heart, for half an hour. The sawdust was then removed, and the body laid out in the usual way. 15*th*. Heat less. 16*th*. Body cool. 17*th*. Body quite cold; limbs rigid; appearance of decomposition over the abdomen. To be interred." The retention of heat was no doubt owing in some measure to the packing of the body in saw-dust; but it also appears that the corpse was very slow in cooling even when this was removed. The temperature was moderately low (45° to 60°), the wind east, the window open in the day time, and the body lightly covered. In deaths from other diseases, the most exposed portions cool most rapidly. Dr. John Davy, in his *Researches*, gives a case of death from pulmonary consumption, in which the temperature of the dorsum of the foot, eighteen hours after death, was 44°, while that of the central substance of the right lobe of the liver was 65°; the other internal organs being also of high temperature. The effect of covering must then be estimated: *imparted* must be distinguished from *self-generated* heat.

But the most curious matter is not the *maintenance* of temperance, but its *rise*. This may happen simultaneously with muscular contractions; but the occasional independent appearance of each shews that their occurrence at the same time is merely a coincidence, and that they cannot be supposed to stand in the relation of cause and effect. Neither is it likely, that putrefaction is the cause of the increase of heat; for the rise of temperature by no means keeps pace with advancing putrefaction. Mr. Barlow believes that "chemical changes, of which the chief is the formation of carbonic acid, go on in the body after dissolution, and give rise to that amount of temperature which is occasionally noticed." In reply to inquiries made of him by Mr. Barlow, Dr. Garrod has given the following opinion as to the cause of the rise of heat .... "I think that it is impossible, that putrefaction should have any share in the production of the phenomenon, as the time, at which it occurs, shows: and also the fact, that cholera bodies are not at all prone to decomposition. I conceive that the following must be the explanation: During the collapsed stage of the disease, the blood, from imperfect circulation, etc., is prevented from being properly oxygenised, and hence a venous blood is circulating in all the vessels of the body, accounting for the cold stage. After death, however, the blood in the superficial capillaries becomes acted upon by the oxygen of the external air, and the formation of carbonic acid, with the production of heat, ensues: this heat often, for a time, much exceeds in amount that which is abstracted by the cooling influence of the surrounding air. After death from most other causes, the blood having become oxygenated during life, no further heat is evolved, and the ordinary cooling process commences." If this view be correct, the skin would be probably found warmer than the parts beneath. This is in some measure confirmed by the experiments of Dr. Bennet Dowler, who, in his *Experimental Researches on the Post-mortem Contractility of the Muscles, etc.*, relates a case in which, five hours after death, the temperature of the brain was 93°, of the epigastrium 100°, of the chest 93°, of the thigh 99°; and another, in which, one hour and a half after death, the epi-

gastrium was at 106½°, and the brain at 101°.[1] With regard to this point also, Mr. Barlow suggests "that it would be interesting to know whether the augmentation of heat be invariably accompanied by change of colour, and whether those bodies become most elevated in temperature, which are most livid at the time of death. It would also be of moment to know the relative effects of exposing some parts to the air, and of keeping others, as far as possible, excluded from it." The changes of the blood in the capillaries may explain the maintenance of heat; but there the effect is purely chemical, the oxygen acting on the stagnant blood in the superficial capillaries in the same way as on a clot of blood drawn from the body.

Mr. Barlow then draws a comparison between the embarrassment of respiration after division of the pneumogastric, and in cholera. In the former instance, impressions on the periphery of the nerve are useless, its trunk being disabled from conveying them; in the latter, the periphery cannot be properly stimulated. But also, in the first case, the blood is affected because of the impaired respiration; in the latter, the respiration suffers and labours because of the damaged blood. He then makes some observations on the subject of post-mortem increase of temperature, which, from the experiments of Dr. Davy in the hospitals at Valetta, and the researches of Dr. Dowler, he believes to occur much more frequently than we have any idea of. Injuries of the spine, especially, have been observed by M. Chossat, Sir B. Brodie, Dr. Gull, and Mr. Barlow, to be attended with increase of temperature. Yet Cruveilhier has observed dislocation of the atlas, with compression of the cord and hemiplegia, to be attended by a feeling of coldness.

We have yet much to learn of animal heat. In what cases heat absolutely rises after death, and in what also it rises *most*, remain to be ascertained. According to Dr. Dowler, the rise in question is not peculiar to cholera; and it is important that the subject should be investigated, both on account of its interesting relations to the signs of death, and also because it may give rise to important medico-legal inquiries.

Long delay of Rigor Mortis. Although, in the Bristol case, the retention of heat and absence of rigor mortis coexisted, yet it does not appear that there is any constant relation between them. M. Ollivier has found some bodies dead from cholera *at once very warm and perfectly rigid*. The varying time at which rigor mortis sets in after death from cholera is referred to the very opposite states of muscular irritability, which exist at the time of dissolution; and, for the same cause, the force with which it will be exerted, and the period of its duration, will be far from uniform. Rigor mortis, not only in cholera, but in death from other diseases, may be influenced by several circumstances.

1. Muscular persons are most likely to exhibit the phenomena in the most marked and lasting way: while atrophy leads to a less palpable and abiding form of it. Paralysis does not destroy it, unless the nutrition of the muscles be impaired. Fatty degeneration doubtless exercises much influence on it. 2. The remedies given for the disease may influence the rigor mortis. This is exemplified by chloroform, which not only impairs the irritability of the muscles during lifetime, but leads to unusually early rigor mortis. 3. The degree of swiftness with which a man dies, and the circumstance of death happening in the cold stage or not, must be considered with reference to the question of rigor mortis. Rapid dissolution may be supposed to leave the muscles more irritable than they would otherwise have been, had the disease been more protracted.

With respect to the positions in which bodies are sometimes found after death, Mr. Barlow allows that some trifling alteration may be attributed to

[1] Dr. Dowler's observations seem to have been principally made on persons dying of yellow fever.

the effect of rigor mortis, but thinks that we have a much better explanation in the post-mortem muscular contractions which sometimes occur; and moreover observes, that we must remember that the body tends to stiffen in the position in which it was left at the moment of death.

Rigidity of the *involuntary* muscles, after death from cholera, has been observed in the heart, the bladder, and the intestinal canal: but no form of rigor mortis of the involuntary muscles is *peculiar* to cholera. Drs. Baly and Kirkes, in their Supplement to Müller's Physiology, consider that there is sufficient evidence that the involuntary muscles are affected by a post-mortem rigidity, in all essential respects comparable to that which is seated in the voluntary muscles.

In considering the *duration* of rigidity, regard must always be had to temperature.

Mr. Barlow thus contrasts some features of rigor mortis with post-mortem muscular contractions. "Rigor mortis does not ensue till the irritability of the muscle is entirely or almost exhausted; but these movements are signs of irritability, sometimes of a great degree of it, and are, in some cases at least, to be *excited*, whereas nothing can excite this form of rigidity, but its one common cause. Rigor mortis influences both sides of the body equally, producing effects not less symmetrical than the disposition of the muscles themselves, and repeats itself in various subjects, making allowance for occasional differences, with striking sameness; but the contractions are diversified as to form and power, affect different muscles in different subjects, cease and return repeatedly; whereas the contraction of rigor mortis being once over, is never renewed."

Retardation of Putrefaction. This may add to the doubts entertained as to the actual occurrence of death. But, in the case at Bristol, it must be remembered, that the death happened in a *young* subject, was accomplished with *celerity*, and effected by a disease wherein the dead are slow to putrefy. The temperature was not high, and fresh currents of cool air were frequently admitted. With regard to the relation of putrefaction to the temperature of the dead, Mr. Barlow inquires whether though prolonged heat and extremely tardy putrefaction have been observed together, the body has been seen at the same time quick to putrefy and slow to cool?

Aspect of the Countenance. This was placid, like that of one asleep, in the Bristol case. This was certainly unusual; but it must not be supposed, that the countenance is *always* strikingly haggard after death from cholera. Sometimes the face becomes less livid; this is doubtless owing to alterations in the blood of the superficial vessels.

The following are the principal points which have been noticed as to the state of the bodies of persons dead from Cholera.

1. The aspect has been unusually cadaverous, varying much, however, in degree; but the features have been more than once observed in a very different state. 2. The whole body has looked extremely shrunken, the hands have been very shrivelled; and the distinction between the age of corpses has been less easy than in general. 3. The colour has been dusky, often remarkably livid; and has been noticed to become lighter and even to redden; sometimes, however, presenting a mottled appearance. 4. Rigor mortis has presented extreme variety as to the period of its occurrence and its degree, and has been observed in the involuntary muscles. 5. Contractions of the voluntary muscles have been observed, varying considerably in their time of occurrence, progress, appearance, and effect; and have been most marked in males. 6. There seems no doubt that the heat of the body, in some cases, has risen considerably after death. 7. Putrefaction has been more tardy than usual. None of these points, however, can be said to be peculiar to cholera; for the lividity, the change of colour, the varieties of rigor mortis, the lingering temperature, the rise of the same, and the muscular contractions, have all been observed in death from other causes.

PLUG OF FIBRIN IN THE CRANIAL PORTION OF THE RIGHT INTERNAL CAROTID, CAUSING ATROPHY OF THE BRAIN AND SOFTENING OF THE CORPUS STRIATUM OF THE SAME SIDE.

Mr. Brindley has published (*Provin. Med. and Surgical Journal*, 10 July, 1850, p. 383) a case, of which the title prefixed to this notice is a summary. The patient was an old lady, aged 72. Three or four years ago, after some disturbing cause, she had a slight paralytic seizure. Her left arm and leg remained somewhat defective in power; her memory became impaired, as well as her hearing, taste, vision, and power of articulation. She suffered much from vertigo, and staggered in her gait, but was quite able to go about. She died, a few days previous to the report, of diarrhœa.

SURGERY.

FRACTURE OF THE NECK OF THE THIGH BONE: FLATTENING OF THE NATIS DIAGNOSTIC.

Mr. John Lizars states in the *Med. Times* (July 6th, p. 8), that the diagnosis of fracture of the neck of the thigh bone is "very far from being sufficiently understood, either by those holding the responsible situations of operative surgeons in hospitals, or by clinical professors." After this flourish of trumpets, which might properly have been dispensed with, he proceeds to make some clinical remarks which will repay perusal. His aim is to show that, although generally the diagnosis is simple, yet there is often no alteration in the limb for days or even weeks. Mr. Lizars is of opinion that, in all cases of injury of the hip-joint, in individuals upwards of forty years of age, if there be *flattening of the natis*, we ought to look for fracture of the neck of the thigh-bone, and apply Desault's long wooden splint, and retain it for six or eight weeks, if the state of the skin over the sacrum, and the health of the patient, permit.

IRON ROD DRIVEN THROUGH THE HEAD; RECOVERY.

Dr. H. J. Bigelow relates, in the *American Journal of the Medical Sciences* for July 1850, the case of a man, twenty-five years of age, who, on September 13, 1848, had an iron rod driven through his head by the exploding of some gunpowder, while engaged in preparing a rock for blasting. The iron passed from the angle of the lower jaw to the centre of the frontal bone, near the sagittal suture. He was at first rendered insensible, and was slightly convulsed; but soon recovered his consciousness and power of speech. There was considerable hæmorrhage. The daily progress of the case is reported by Dr. Harlow, under whose care the patient was. No remarkable symptom appeared till the 18th September, when he became delirious; and, from the 23rd of that month till the 3rd October, he lay in a semi-comatose state, answering only in monosyllables when spoken to. During this time, also, he had lost the sight of the left eye, and an abscess had formed under the occipito-frontalis muscle. After this, he recovered gradually, with the exception of the effects of a chill, from getting wet in the feet while walking out on 14th November. The symptoms were subdued in a few days; and, on the 18th, he was reported as in a fair way of recovery.

In January 1850, he was seen by Dr. Bigelow. There was ptosis of the left eyelid, and the eye was incapable of being moved outwards or upwards. The situations of the orifices of the wound were occupied by cicatrices.

Dr. Bigelow has performed some experiments on the dried skull, to ascertain precisely what parts must have been injured. He finds that the iron entered beneath the zygoma, removing the orbital portion of the sphenoid, the anterior part of the squamous portion of the temporal bone, and the internal surface of the zygoma and malar bone laterally. In the orbit, the

sphenoid bone, part of the superior maxillary, and a large part of the frontal, are removed, leaving the optic foramen intact. At the base of the skull, the frontal, temporal, and sphenoid bones are cut. In the brain, the central part of the left anterior lobe, and the front of the middle lobe, must have been destroyed, laying open the lateral sinus. The falx and longitudinal sinus must also have been lacerated. The experiments made by Dr. Bigelow are illustrated by plates, representing the position of the rod.

The instrument weighed thirteen pounds and a quarter, was three feet seven inches in length, and was one inch and a quarter in diameter. At the end which entered the head, it tapered off for seven inches, till its diameter was a quarter of an inch at the point.

REMOVAL OF AN IMMENSE CELLULAR TUMOUR OF THE LABIUM.

Mr. E. A. Lloyd, of St. Bartholomew's Hospital, narrates the following case in the *Med. Times* of July 13, p. 29.

Sarah Holland, aged 28, (the offspring of an European father and dark mother), was admitted into St. Bartholomew's on the 24th January, 1850. She stated, that the tumour commenced fourteen years ago as a small, hard swelling in the right groin, very near the labium externum. It slowly increased for nine years; after that time, it grew much more rapidly, till at last she resolved to come to England to have it removed. During the voyage, she suffered very much from sea-sickness; and by her arrival, the tumour had considerable diminished in size. On admission, she had a pendulous tumour of a pyriform shape, the neck of which extended from the right labium externum to the anterior superior spine of the ilium on the same side, the bulk of the tumour hanging down in front of the thigh. It was about a foot in length, and measured twenty-two inches in circumference at the largest part. It did not impede any function, and the organs of generation were perfectly healthy. The skin which formed the surface of the swelling was of the natural colour, but the sebacious follicles were greatly enlarged. There was no impulse on coughing, nor any symptom to induce the belief that there was any communication between the tumour and the abdominal cavity. She had never suffered pain in the tumour; but, on account of its weight, was obliged to keep it suspended. The tumour was removed on the 22nd Feb. After the administration of chloroform, several double ligatures were passed through the neck of the tumour, about one inch distant from each other; then two strong gutta percha bougies were fastened tightly (one on each side of the neck), by means of these ligatures, after the manner of a quilled suture. The tumour was then removed by cutting through the neck just below the ligatures, and not more than an ounce of blood was lost. In the middle of the wound was found a lymphatic gland, which was removed. A piece of wet lint having been applied to the wound, the patient was taken to bed. There were several attacks of hæmorrhage and erysipelas, which continued for a month, retarding the healing process. The wound, however, is now closed, and the patient is in good health.

Mr. Lloyd applied the quilled suture to the neck of the tumour, to strangle it, and prevent any great loss of blood during the operation. He agrees with others, in considering these tumours to depend upon hypertrophy of the skin and cellular tissue, the interstices of the latter being filled with serum.

OPIUM OR CHLOROFORM IN THE STRANGULATED HERNIA OF INFANTS?

Dr. Joseph Reid, of Southam, details a case (*Lancet*, July 13, p. 50) attended by him along with Mr. H. L. Smith, in which the bold administration of opium averted the necessity of an operation. As the infant's age was only *eleven months*, the exact quantity of opium given ought to have been stated by Dr. Reid, but he only tells us that "a mixture containing a considerable quantity" was ordered. We think that, both in adults and in children, a

more complete relaxation of the parts concerned in a strangulated hernia can be obtained by the inhalation of ether or chloroform than by opium. Children bear chloroform better than opium, which, in full doses, is always exceedingly hazardous to infants under one or two years of age.

EXTENSION OF GONORRHŒAL INFLAMMATION TO THE BLADDER. PUS IN THE URINE.

In a paper in the *Dublin Quarterly Journal of Medical Science* for August 1850, Mr. W. Colles expresses his belief, that gonorrhœa is not, as was supposed by John Hunter, confined to the first two inches of the urethra, but that, commencing at the orifice, the affection may extend along the entire canal, and often attack the lining membrane of the bladder itself: and even sometimes extend to the ureters and kidneys. The testicles might also be easily affected, producing *hernia humoralis*. The extension of the affection to the bladder is proved by the general symptoms, and by the appearance of pus in the urine. These symptoms are most severe in catarrh of the bladder; at other times, they will be very slight. The attack of the bladder may commence with a severe rigor, with slight feverishness or uneasiness towards evening, and with dull, heavy pain across the pubis, extending to the sacrum and anus, and even to the region of the kidneys. The patient has frequent and painful micturition, the pain being referred chiefly to the neck of the bladder, and extending to the perinæum and anus. The urine is sometimes clear, but generally slightly cloudy, and throws down a copious yellowish or cream-coloured deposit of pus, after standing for one or two hours If a drop of the urine be examined with the microscope immediately after being passed, it will be found loaded with pus-globules. Sometimes, clusters of pus-globules and epithelial scales will be found, in the form of yellowish shreddy particles, floating through the urine. The pus cannot be from the urethra alone, because the canal, probably, resists any retrograde movement, and because it could not furnish the quantity which is observed.

Dr. Fleming has tested the direct passage of the pus from the bladder, by introducing a catheter, allowing the first ounce or so of fluid to escape, and then examining the urine drawn off. He has by this means found pus-globules. In equivocal cases of hæmaturia, the same results, as regards blood-globules, have attended the use of this test.

In the case which first drew the attention of Mr. Colles to this subject, the patient had, a few days after infection, a severe rigor, with considerable pain and irritation of the urinary organs, and a copious deposit of upwards of eight or ten ounces of pus in twenty-four hours. The previous good health of the patient, and the absence of symptoms indicative of a collection of matter, precluded the idea that an abscess could have burst into the bladder. Since that time, Mr. Colles has found pus in the urine, in cases of gonorrhœa, much oftener than he had reason to suspect; sometimes even in two or three days. In two or three cases, also, the urethral discharge has continued, and the urine has been purulent nearly two years.

With regard to the *treatment*, Mr. Colles thinks that, though the injection of strong stimulants, as *abortive* remedies, may at times prevent the extension of the inflammation, yet, if they fail, they aggravate the subsequent stages. When pus has appeared in the urine, the treatment must be antiphlogistic; and when inflammation has subsided, we may employ the balsams, or cubebs; the latter being preferable. If these means fail, it is customary to resort to tonics, astringents, alkalies, acids, preparations of iron, etc. Yet no single remedy appears to possess much control over the secretion of pus from the bladder. Injections, if used, should be applied to the whole diseased surface; not only the urethra, but the bladder itself, should be injected with weak solutions of sulphate of zinc, of nitrate of silver, or even of balsams.

ENCYSTED TUMOUR OF THE LABIUM SUCCESSFULLY TREATED BY SETON.

Mr. E. C. Cottingham details the following case in the *Lancet*, July 6, 1850, p. 16. A widow, aged 32, had an encysted tumour, the size of a large walnut, situated on the right labium, which had existed for some time, and had gradually increased, in spite of the internal and external administration of iodine. Mr. Cottingham recommended excision, but she refused permission, but allowed him to introduce a Seton. He passed a small curved needle, armed with six silk threads, completely through the tumour, when a small quantity of glairy fluid, resembling white of egg, escaped. At the end of three weeks, the Seton was removed, when the cyst was found to be entirely obliterated.

MATERIA MEDICA AND PHARMACY.

THE KOSSO OR BRAYERA ANTHELMINTICA. BY JONATHAN PEREIRA, M.D., F.R.S.

History. Kosso has been in use in Abyssinia, as an anthelmintic, for more than two centuries; for Leutholf (Ludolfi, *Historia Æthiopica*, lib. i, cap. ix, sect. 31, 1681) says, that "N. Godingus praises another tree as being very efficacious against *lumbrici*, which are produced by the use of raw meat. But the Abyssinians purge themselves every month with the fruit of this tree, and thus," he says, "destroys these worms." Now there can be little doubt, I conceive, but that this passage refers to the Kosso. Bruce, in his *Travels to discover the Source of the Nile, from* 1768 *to* 1773 (vol. v, p. 73), published at London in 1790, mentions this medicine, which he calls *cusso*, and proposes to name the tree *Banksia Abyssinica*, after Sir Joseph Banks, the then president of the Royal Society. But the younger Linnæus, in the *Supplementum Plantarum*, published at Brunswick in 1781, had already appropriated the name of *Banksia* to a New Holland genus of proteaceous plants, and he has been followed by all succeeding botanists; so that Bruce's proposed botanical name for the Kosso cannot be adopted. Bruce gave a very good popular account of Kosso, accompanied by what he justly terms "a true and exact" figure of the plant. I have compared his figures with a specimen of the plant collected in Abyssinia by Schimper, and contained in the herbarium of my friend Mr. N. B. Ward, and with the commercial flowers, and find that they are fair representations of the plant.

Bruce states that the Abyssinians evacuate once a month "a large quantity of worms; these are not the tape-worm, or those that trouble children, but they are the sort of worm called ascarides." This statement agrees with that of Godingus just quoted; but it does not accord with the observations of other travellers, who tell us that the worm with which the Abyssinians are troubled, and for which they employ the Kosso, is the tape-worm. The accuracy of this latter statement has been proved by Dr. Hodgkin (*Medical Times*, October 26th, 1844, p. 74) who gave oil of turpentine to an Abyssinian in the service of Dr. Beke, and thereby expelled a Tænia solium—the same kind of tape-worm which prevails in England, and which is understood to prevail at the Cape of Good Hope.

In the *Encyclopédie Méthodique (Botanique*, Supplem. t. ii, p. 423, 1811) Lamarck has described the *Cusso d'Abyssinie*, which he named after Dr. C. G. Hagen, a professor at Königsberg, the *Hagenia Abyssinica*. He says the tree was discovered by Brown—but I presume that this a typographical error, and that for "Brown" should be read "Bruce";—for the figures of the plant given by Lamarck (pl. 311) are obviously copied from those of Bruce, though he does not refer to this distinguished traveller as his authority. It is remarkable that Lamarck's proposed generic name *(Hagenia)* has been applied by the late Professor Eschweiler *(Systema Lichenum*, 1824) to a proposed genus of lichens usually included in that of Parmelia; and by Monch *(Methodus*, 1794) to a caryophyllaceous plant now regarded as a species of

Gypsophila. Willdenow (*Species Plantarum*), and Sprengel (*Syst. Veget.* ii, 220, 1825) have each adopted Lamarck's name (*Hagenia Abyssinica*) for *kosso*.

Dr. Brayer, a French physician, who resided for a considerable time at Constantinople, and who had witnessed the valuable anthelmintic properties of Kosso, and had himself successfully employed this remedy, sent, on his return to Paris, in 1823, some fragments of the male flowers to the late celebrated Prussian botanist, Kunth, who ascertained that the plant which yielded them formed a new genus, near to, but distinct from, that of Agrimonia.[1] To this genus Kunth gave the name of *Brayera*, after the physician who sent him the flowers, and the species he called *B. anthelmintica*. This generic name has been adopted in the systematic works both of De Candolle (*Prodromus*, vol. ii, p. 588) and Endlicher (*Genera Plantarum*, 6395). Kunth does not appear to have been aware either of Bruce's notice of Kosso, or that Lamarck had previously given to this genus the name of *Hagenia*, otherwise, doubtless, he would have referred to them, and have adopted this designation. Dr. Brayer published a little pamphlet (*Notice sur une nouvelle Plante de la Famille des Rosacées*, Paris, 1823, 8 pages) on this medicine, but which I have not been able to get a sight of. According to the information furnished by Dr. Brayer, it appears that Kosso is carried by the caravans to Egypt, and from thence finds its way to Constantinople.[2] The identity of the genera *Hagenia* and *Brayera* was first recognised by Fresenius (*Museum Senkenbergianum*, vol. ii, p. 162, 1837).

In 1839, Buchner (*Repertorium*, 2te Reihe, Bd. xviii, S. 367) gave a notice of three Abyssinian remedies which he had received from Engelmann. One of these was the Kosso, (called *koso*), which was stated to be the flowers of the *Bracera* [Brayera] *anthelmintica*. In 1840, Wittstein (Buchner's *Repertorium*, 2te Reihe, Bd. xxi, p. 24) published an analysis of Kosso, which he calls *Bracera anthelmintica*.

Riecke's *Die neuern Arzneimittel*, published in 1840, contains a notice of the *Brayera anthelmintica* by Dr. Plieninger, who obtained his information respecting it from some missionaries returning from Abyssinia; and the same notices includes some botanical and pharmacological account of this medicine by Dr. Kurr. In 1841, Dr. Aubert, who had spent some time in Abyssinia, read a *Mémoire sur les Substances Anthelmintiques usitées en Abyssinie*, before the Académie Royal de Médecine, at Paris, and which was published in the Memoirs of the Academy for that year. His account of the anthelmintic virtues of the Kosso confirms the statements of preceding writers. A very interesting Report on his memoir was drawn up by Mérat, and published in the *Bulletin de l'Académie Royale de Médecine*, tom. vi, p. 492, 1840-41. M. Rochet d'Hericourt, in his *Second Voyage sur les deux Rives de la Mer Rouge dans le Pays des Adels et le Royaume de Choa*, published at Paris in 1846, gives a very brief notice of the Kosso, with a lithograph of the flowers and leaves. This traveller is the present holder of the entire European stock (about 1400lbs.) of Kosso. Drs. R. Quartin-Dillon and A. Petit, the naturalists of the French expedition to Abyssinia in the years 1838-43, collected the Kosso; of which a botanical description has been published by A. Richards, in the *Tentamen Floræ Abyssinicæ*, which forms the fourth volume of the *Voyage en Abyssinie*, edited by M. Th. Lefebvre. The forty-eighth

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[1] In the first volume, p. 470, of the *Mémoires de l'Academie Royale de Médecine*, it is erroneously stated that Kosso is the *Agrimonia orientalis* of Tournefort, who saw it in Abyssinia. Now, in the first place, Tournefort never was in Abyssinia; and secondly, the *A. orientalis* (*A. repens*, Linn.) is a creeping herb, whereas the *Kosso* is a large tree!

[1] In the *Journ. de Pharmacie*, t. ix, p. 160, 1823, is an *Extrait du Bulletin de la Société Philomathique*, 1822, containing a notice of Dr. Brayer's observations respecting *Kosso*, and of Kunth's determination of the plant.

plate of the "Botanique" of this "Voyage" contains an excellent figure of the plant, with dissections of the flower.

Native Names. My friend Dr. Beke, the well-known Abyssinian traveller, has given the following note respecting the native names for this remedy :— "The tree, of the flowers of which you have a sample, is called in the Amharic language *kosso*,[1] and in that of Tigre, *hhàbbe*.[2] In the Gafat language it is styled *kossish*, and in the Gonga, *kosbo* [3]; in the Agau of Waag, *sika*; in that of Agau-mider, *shinei*; and in Falasha, *sakikana*; while in Galla, its name is *bêti*. In the countries further to the south, it has other names,[4] which, however, I have not collected in my vocabularies of the languages of those countries. But it is best known in Abyssinia and Europe by its Amharic designation, *kosso*." Dr. Beke further observes, that "the tape-worm, for which the Kosso flowers are a remedy, is known in the languages of Amhara and Tigre by the same names respectively as the medicine itself, viz., *kosso* and *hhàbbe*. So, too, in the Gafat and Ginga, in which respectively both are called *kóssish* and *kósbo*. In the Waag-Agau, likewise, the name *sika* is the name for both; but in the dialect of Agau-mider, the worm is called *turo*, and, in the Falasha, *saka*; whilst in the Galla, it is *minui*."

Botany. The first accurate botanical description of the flowers of Kosso was given by Kunth, whose account has been adopted in De Candolle's *Prodromus*. Kunth, however, was acquainted with the male flowers only. The most recent systematic notice of the genus Brayera is that of Endlicher, which I shall adopt.

Brayera Kunth. Brayera Kunth in *Brayer Notice*, in 8vo, 1824, Paris; *Dict. Class. Hist. Nat.* vol. ii, p. 501, cum icone. DC. *Prodr.* ii, 588. Meisner *Gen.* 103 (73). Fresenius in *Mus. Senkerb.* ii, 162; Endlicher, *Gen. Plant.*, p. 1248, 6395; Hagenia Lamarck *Encycl. Méth. Bot.*, Suppl. t. ii, p. 423; Willdenow, *Sp. Pl.* ii, 331. Cusso, Bankesia, Bruce's *Travels*, vol. v, p. 73.

Calyx, with the tube bitracteolate at the base, turbinate; throat constricted internally by a membraneous ring; limb, 10-partite; the segments in two series, the five outer ones much larger, oblong-lanceolate, obtuse, reticulate-veined, stellately patent, the five inner ones alternate, smaller, spathulate. *Petals* 5, inserted in the throat of the calyx, small, linear. *Stamens* from fifteen to twenty, inserted along with the petals. *Filaments* free, unequal in length. *Anthers* bilocular, dehiscing longitudinally. *Carpella* two, placed at the bottom of the calyx, free, unilocular, containing one or two pendulous ovules. *Styles* terminal, exserted from the throat of the calyx, thickened upwards. *Stigmas* subpeltate-dilated, crenato-oblong.

Nat. Ord Rosaceæ Jussieu. De Candolle places it in tribe v, *Dryadeæ*. Endlicher, in his suborder, *Spiræaceæ*.

Brayera Anthelmintica, Kunth, l. c. DC. l. c.; A. Richard, Tentamen Floræ Abyssinicæ; *Hagenia Abyssinica*, Lamarck, l. c.; *Cusso*, *Bankesia Abyssinica*, Bruce, l. c.

The only species.

An Abyssinian tree, twenty feet high. Branches round, rusty, tomentose-villose, marked by the annular cicatrices of the fallen leaves. Leaves crowded, alternate, interruptedly imparipinnate and sheathing at the base. Leaflets oblong, or elliptical lanceolate, acute, serrate, villose at the margin and on the nerves of the under surface. Stipules adnate to the petiole, which is dilated at the base and amplexicaul. Flowers diœcious, small, greenish, and

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[1] This word is variously spelt by different writers, *cusso*, *cosso*, *cousso*, *coso*, *koso*, and *kosso*. Dr. Aubert says it should be pronounced (in French) *cousso*. J. P.

[2] According to Dr. Plieninger, who obtained his information from the Abyssinian missionaries, the Tigre name is *hepah*. Wittstein writes it *habi*. J. P.

[3] Written *cobso* by some persons. J. P.

[4] Dr. Brayer gives *cotz* or *cabotz*, as vernacular names: according to Dr. Aubert (*Bullet. de l'Acad. Royale*), these names are erroneous.

becoming purple; repeatedly dichotomous; the pedicels with an ovate bract at the base.

The so-called male flowers may be regarded as hermaphrodite flowers, inasmuch as the carpels are well developed. The female flowers are somewhat different in their structure. The outer segments of the calyx are much more developed than in the male flowers, and are four or five times larger than those of the inner row, and are placed somewhat below them; the petals are entirely wanting; the stamina are rudimentary and sterile. The ripe fruits are unknown.

The tree grows in Tigre, Agame, and Shoa; it is cultivated everywhere.

Dr. Beke writes, that the tree is "found throughout the entire table-land of North-eastern Abyssinia, but appears to require an elevation of upwards of six thousand (perhaps of seven thousand) feet for its growth. Where I found it most luxuriant, was in the vicinity of the source of the river Abai (Bruce's Nile), at an elevation of close upon nine thousand feet. Tigre, the northern portion of Abyssinia, being, on the whole, of lower elevation than the rest of that country, the tree is only found there in a few places."

Bruce describes the flowers as being of a greenish colour, tinged with purple; and, when fully blown, of a deep red or purple. The petals, he says, are white.

Preparation. Mr. Johnston states, that the Kosso is gathered, for medicinal purposes, before the seeds are quite ripe, whilst still a number of florets remain unchanged. The bunches are suspended in the sun to dry; and, if not required for immediate use, are deposited in a jar.

Pharmacography. I have seen only one package of Kosso (*flores brayeræ anthelminticæ*). This was kindly opened in my presence by M. Simond, of the firm of Caylits, Simond, and Co., the agents of M. Rochet d'Hericourt. It was a deal box, containing about thirty pounds of the dried flowers, wrapped up in a large skin of red leather. On removing the lid of the box, and untying the leather package, the fragrant or balsamic odour of the dried flowers was very powerful. It appeared to me to be somewhat similar to the combined odours of tea, hops, and senna-leaves. The flowers had apparently undergone no preparation beyond that of desiccation. The bunches of flowers were perfect and unbroken, though of course compressed. The general colour of the dried mass was greenish-yellow; but when the flowers were more closely examined, the edges of the petals were seen to have a reddish or purplish colour. The taste of the dried flowers is at first not very marked; but after a few minutes a feeble, senna-like, acrid, unpleasant taste becomes perceptible. By soaking the dried flowers in water, they may be unfolded sufficiently to determine their botanical characters, which have been already described. When submitted to microscopic examination, the hairs are perceived to be simple lymphatic hairs, tapering at the distal extremity.

In Abyssinia, two sorts of Kosso are distinguished, viz.: 1st, the *red* Kosso produced by the female flowers; 2ndly, the male flowers, known as Kosso-esels. In commerce, the two sorts are always mixed together.

Adulteration. Considering the enormous price (about £1 15s. per ounce) at which Kosso has hitherto been sold in Paris, and the very limited quantity originally supplied by M. Rochet d'Hericourt, it cannot be surprising that the article should be extensively adulterated. Indeed, I have been assured, on credible authority, that the powder now selling as "Kousso" is, in fact, the powder of pomegranate bark; and that legal proceedings have been commenced in Paris to put a stop to the fraud, which is well calculated to injure the reputation of the genuine Abyssinian remedy. I have no doubt but that the microscope would readily detect the substitution; but the surest way of obtaining the genuine article, is to purchase the dried flowers in the entire state, not in the form of powder.

Chemistry. The flowers of the Brayera (*i. e.* Kosso) have been analysed

by Wittstein (*ante cit.*) and by Martin (*Journ. de Chimie Med.*, t. vi, 2nde sér., p. 579, 1840). The following are the results obtained:

Wittstein's Analysis.

Fatty Oil } Chlorophylle }	1·44	Tannin striking a blue colour with iron	15·46
Wax	2·02	Vegetable fibre	40·47
Bitter acrid resin	6·25	Ashes	15·71
Tasteless resin	0·77		
Sugar	1·08		99·86
Gum	7·22	Loss	00·14
Tannin striking a green colour with iron	8·94		100·00

Martin's Analysis.

Starch	Green very odorous resin
Saccharine matter	Crystalline substance, called *kwoseine*.
Vegetable extractive matter	

The *ashes* consist of potash, magnesia, lime, oxide of iron, sulphuric and phosphoric acids, chlorine, and silica.

With regard to the two kinds of *tannin*, Wittstein observes, that, as far as he knows, this is the first instance recorded of a plant containing simultaneously two kinds of tannin,—striking, the one a blue, the other a green colour, with the salts of iron. Although it is not improbable that the anthelmintic property of Kosso may, in part, depend on tannin (since the pomegranate bark, which contains this principle in abundance, is, like Kosso, also an anthelmintic), yet what may be termed the peculiar property of the Kosso, probably resides chiefly in the bitter acrid resin. This is soluble in alcohol and in ether, and appears to be a neutral body, manifesting neither distinct alkaline nor acid properties. The crystalline principle, to which Martin has given the barbarous name of *Kwoséine* (from *Kwoso*, the supposed name for Kosso), is described as consisting of white silky crystals, having a styptic taste, and as being soluble in alcohol and sulphuric ether. They are said to redden litmus paper, and to dissolve, without undergoing decomposition, in sulphuric, nitric, and muriatic acids. By boiling the dried plant in water, a fragrant odour is evolved. No doubt this, as well as the odour of the dried plant itself, depends on the presence of a *volatile oil*, of which, however, no mention is made in Wittstein's analysis, the oil being present in too small a quantity to admit of its collection when small quantities of the flowers are operated on. It is not improbable that the anthelmintic properties may, in part, depend on this oil; for Schimper states, that in Abyssinia the plant is considered to have lost its anthelmintic powers in the third year after its collection. In Europe, however, it retains its powers for a longer period (on account of the cooler climate?); for the flowers which have been used for all the recent experiments have been collected more than four years; and we are told, in the shop-bill of a Parisian *pharmacien*, that they may be kept for an indefinite period!

An infusion or decoction of Kosso strikes a dark green olive tint with a solution of the sesquichloride of iron.

Medicinal Properties. Neither botanical characters, sensible qualities, nor chemical composition, would have induced us to suspect that Kosso possesses the valuable anthelmintic properties which experience has shown that it does. The general and prevailing quality of the Rosaceæ is astringency, dependent on the presence of tannic and gallic acids. This is observed in the flowers (*e. g.*, rose petals), as well as in other parts of the plants. In this quality, Kosso agrees with its congeners. But it can scarcely be on this that its vermifuge property solely depends; otherwise rose petals, or any other equally powerful astringent, would be as effective in expelling worms as these Abyssinian flowers. But in Rosaceæ, as in many other families of

the vegetable kingdom, anomalies exist; and to this head we must, for the present, be content to refer Kosso. Our confidence in the anthelmintic properties of Kosso rests, then, on experience only; and the evidence on this point is very strong. All modern travellers in Abyssinia are agreed on the great success of the remedy on the natives of that country; and the experience of physicians in France, England, Germany, and Switzerland, confirms the favourable reports made by those who have seen the Kosso used in its native country. In Paris, it has been employed with great success by Chomel and Sandras (*Ann. de Thérap. pour* 1847), as well as by numerous other distinguished physicians. In London, our experience of it is much more limited; but the successful results of its use in King's College Hospital, in the hands of Drs. Budd and Todd (*Lancet*, March 16th, April 20th, and May 25th, 1850), and of Dr. Gull (*Lancet*, May 25th), in Guy's Hospital, confirm the favourable reports of its efficacy, which had reached this country from abroad.

The physiological effects of *Kosso* are not in general very great. Sometimes it excites a slight sensation of heat, nausea, or even vomiting, creates thirst, and frequently, perhaps usually, a gentle action on the bowels. But the latter is commonly so slight, that in a considerable number of cases, it is necessary to follow its administration by a mild purgative. It is obvious, therefore, that the efficacy of Kosso as an anthelmintic does not depend on purgative or evacuant influence, but on its poisonous or toxic action on the worm; in fact, it is a true *vermicide*. In one case, that of a woman in France, it brought away ten worms, of which one only manifested evidences of vitality, and that for a few minutes only.

Kosso appears to be an effective anthelmintic in both kinds of tape-worm, viz., the *Tænia solium*, and *Bothriocephalus latus*. In most of the reported successful cases, the *Tænia solium* was the parasite expelled; but in one of Chomel's cases, the worm which was evacuated was the *Bothriocephalus latus*, and I am informed, that Kosso has proved most effectual in Switzerland, where, as is well known, the *Bothriocephalus* is the prevailing tape-worm.

The dealers in Kosso assert that one dose will, in every case, effect the radical cure of tape-worm. But this must be obviously an error. Even supposing that it invariably destroys all the worms in the alimentary canal at the time of its exhibition, it can in no way prevent their recurrence, provided the patient retains his predispositions (which there is no reason to suppose are affected by the Kosso), and is subjected to the same influence. It certainly does not radically cure the Abyssinians, since, as several writers tell us, they resort to this remedy monthly. Schimper, the governor of Adoa, says it does not completely expel the tænia, or at least rarely does so. But, he adds, that possibly in Europeans, in whom the verminous disposition is not so pronounced as in the Abyssinians, it may perhaps act in a more complete manner. In the Abyssinians this verminous disposition is innate, and is dependent, he adds, on the regimen which they adopt.

Hitherto, the great drawback to the use of Kosso has been the difficulty of procuring the remedy, and its enormous cost. At the time when it could be purchased in Paris, its price was £1 15*s.* per oz., or 17*s.* 6*d.* per dose. M. Rochet d'Hericourt, the sole holder of the medicine at the present time, refuses to sell any quantity less than his entire stock, at the rate of one guinea per ounce! His nephew tells me that his uncle possesses 1400lbs. of it, which, at one guinea per ounce, will cost 22,400 guineas!!! The impossibility of effecting a sale on such terms will, I doubt not, ultimately compel the holder to reduce his demands to something approaching to reason. It does not appear that the remedy is very costly in Abyssinia. Schimper, writing from Adoa, in Abyssinia, says that it is found in commerce at a very low price. At Yangaro (commonly called Zingaro) the sovereign has the exclusive use of it, his subjects being prohibited from employing it; but in other parts, free trade in Kosso is permitted. Considering the frequency

and rapidity of our communications with Egypt (to which place, according to Dr. Brayer, *Kosso* is conveyed by caravans) no difficulty, I apprehend, will be experienced in obtaining an abundant supply of it. Its present price is a virtual prohibition of its use.

The flavour, though not very strong, is by no means agreeable; and is sufficiently powerful in some patients to create disgust and excite vomiting. In one case, under M. Chomel (*Ann. de Thérap., pour* 1847), the whole of the remedy was rejected by vomiting.

No ill effects have resulted from its use in this country; nor have I met with any statement of its injurious action, except in Mr. Johnston's *Travels in Southern Abyssinia* (vol. ii, p. 272, 1844), where it is stated that its "operation is speedy and effectual; and to judge by the prostration of strength it occasioned in my servants when they employed this medicine, it must be dreadfully severe. I can answer for this, that it occasions frequent miscarriages, often fatal to the mother, and even men have been known, after a large dose, to have died the same day from its consequences. I am, therefore, surprised at the noise this remedy has occasioned the last few years in Europe, as if it promised to be a valuable addition to our Materia Medica. This, I conceive, can never be, for no civilized stomach could bear the bulk of the drug necessary to produce its effects. Even in Abyssinia, it is but barely tolerated; and let another remedy equally efficacious for dislodging tape-worm be introduced into that country, and the use of Cosso will be soon abandoned. In fact, several other vegetable productions are now employed, to escape the punishment of a dose of this violent cathartic."

Administration.—Both Bruce (*op. ante cit.*) and Schimper (Bouchardat, *Annuaire de Thérapeut. pour* 1849, p. 257) tell us that the Abyssinians take a handful of the dried flowers as a dose. In Paris, the dose has varied from four to six drachms. In general, however, half an ounce (Troy weight) is considered a dose for an adult.

For different ages the doses are thus adjusted:

Adults..... 1 dose = 240 grs. (half an ounce)
Children of from 7 to 12 years..... $\frac{2}{3}$ of a dose = 160 grs.
„ „ 3 to 7 „ ..... $\frac{1}{2}$ of a dose = 120 grs.
„ not exceeding 3 „ ..... $\frac{1}{3}$ of a dose = 80 grs.

The Kosso should be taken in the morning fasting. The only preparation necessary is, that the last meal of the previous evening should be slight. The evacuation of the bowels by a mild purgative, or a lavement is also desirable.

The mode of administering the remedy is as follows: The powdered flowers are to be mixed with luke-warm water (for an adult about ten ounces), and allowed to infuse for a quarter of an hour. A little lemon juice is then to be swallowed, and, the infusion being stirred up, the whole is taken, liquid and powder, at two or three draughts, at short intervals, being washed down by cold water and lemon juice. To promote the operation, tea (without sugar or milk) may be taken. In three or four hours, if the remedy has not operated, a dose of castor oil or a saline purgative should be administered. (*Pharmaceutical Journal*, July 1850.)

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY,

Tuesday, March 26, 1850.

Dr. Addison, President, in the Chair.

Case of Suppuration of an Hydatid Cyst of the Liver, in which the Abscess opened through the Lungs; and one in which the Hydatid Cysts were Expectorated. By T. B. Peacock, M.D. The first case was that of a female, aged 20, who was a patient at the Royal Free Hospital with symptoms of bilious remittent fever; and, after partial recovery, was seized with pain in the right side, dyspnœa, and fœtid bilious expectoration. After death, a large cyst, containing a thick, purulent fluid, with a collapsed acephalocyst, was found in connexion with the upper part of the liver. It had perforated the diaphragm. Two other cysts were also found in the liver; one of which had suppurated; the other was deeply tinged with bile. The second case was that of a man, aged 31, a patient at the City Hospital for Diseases of the Chest. He profusely expectorated, yellowish coloured matter, with shreds of membrane, which proved to be portions of hydatid cysts. He had enlargement of the lower part of the right side, and evidences of a cavity there. He continued to expectorate the hydatids for some time; but this gradually diminished under the use of tonics; and for ten weeks he had so far improved as to give hopes of recovery.

Summary of Discussion. Dr. C. J. B. Williams had met with three or four cases of hydatids. The differences which hydatids produce as to symptoms, were remarkable; these being in some cases prominent and intense, while, in others, there is no evidence of the existence of the hydatids until they are discovered after death. He referred to the apparent attempts of nature to circumscribe the adventitious body, as shown by the putty-like matter, resembling softened tubercular matter, found in old cysts. Under the microscrope, we find rhomboidal scales of cholesterine, globules of fat, and traces of the elementary tissues.

In answer to an objection made by Dr. Todd, that the cyst became impregnated with the elements of the bile, he stated that cholesterine was also found in hydatids of the lungs, and in other old deposits in other parts.

Mr. B. Cooper related the case of a lady, in whom a swelling had formed on the gluteal region in consequence of a blow. The clear colourless fluid evacuated from it by puncture, was found to contain numerous echinococci.

Dr. Theophilus Thompson believed that hydatid cysts, though they might occasion inconvenient pressure, rarely produced formidable irritation till they ceased to live, or till the contained fluid came into contact with the natural tissues of the body. He believed, with Dr. Todd, that they were, in some cases at least, formed within the biliary ducts; and that, in many instances, they owed their production to mechanical injury. Some articles of diet, especially green food, he thought to be more likely to engender the disorder. Dr. Thompson relates some cases in support of his observation.

Dr. Addison had seen many cases in which hydatids were expectorated from the lungs; and alluded to some cases.

Tuesday, April 9, 1850.

Dr. Addison, President, in the Chair.

Scrofulous Abscess of the Anterior Mediastinum, communicating with both sides of the chest, the trachea, and pericardium, and forming a tumour above the Clavicle, simulating Aneurism of the Innominate Artery, or of the Arch of the Aorta. By D. Maclachlan, M.D. The patient was an old soldier, aged 61, who was admitted into the

Infirmary of Chelsea Hospital with an elastic tumour immediately above the external end of the right clavicle. It produced symptoms of compression of the vessels and nerves in the vicinity, with difficult deglutition and respiration. There was universal dulness on the right side of the chest; yet there were circumstances which rendered the existence of pleuritic effusion doubtful. On puncturing the swelling, some days after admission, sero-purulent curdy matter was discharged; and sero-purulent matter continued to escape, whenever he coughed, until his death. The anterior mediastinum was found enormously thickened; and in the centre of the diseased mass, an almost empty abscess, of the size of a billiard-ball, was found. It communicated with the right side of the chest, with the pericardium, with the tumour in the neck, and with the trachea. The right side of the chest contained several pints of sero-purulent fluid; there was a small quantity in the left side, and the pericardium contained about a pint.

Case of Mollities and Fragilitas Ossium, accompanied with Urine strongly charged with Animal Matter. By William Macintyre, M.D. The patient was a tradesman, aged 47, who suffered severely from pain in the chest, back, and loins. These had ceased, and returned at various times. The urine, when examined by Dr. Macintyre, was found to contain much albumen, and to present some remarkable characters. Treated by heat it gave no indications of albumen till near the boiling point (instead of 160° or 170°). 2. Nitric acid caused no immediate precipitation, but rather rendered the urine, if previously turbid, perfectly clear. It retained its transparency and fluidity for an hour or longer, and then consolidated into a firm yellow mass, which underwent complete solution on being heated, but again formed on cooling. After death, there was found to be softening and fragility of the ribs, sternum, and spine. The viscera, and especially the kidneys, were healthy.

Tuesday, April 28, 1850.

Dr. Addison, President, in the Chair.

Case of very Large Hæmatocele of the Spermatic Cord, fatal after 10 years. By William Bowman, Esq., F.R.C.S.E. Large Hæmatocele of Tunica Vaginalis in an Old Man, terminating Fatally. By T. B. Curling, Esq., F.R.C.S.E. Mr. Bowman's case was that of a farmer, aged 60, in whose right groin a tumour appeared after a fall from a horse. After seven years, the tumour began to increase, so as to form in December 1848, a large mass reaching from the groin to the patella. It was twice tapped, giving exit to blood, mixed, on the second occasion, with putrid fluid and gas. The man died a few days after the second operation. Mr. Curling's patient had suffered for many years, and had undergone no treatment till compelled by inflammation, and retention of urine. Three pints of dark grumous blood were discharged by tapping.

Summary of Discussion. *Pathology* of hæmatocele. Mr. Curling and Dr. Black attributed the hæmorrhage to rupture of diseased arteries. Mr. Bowman considered that the blood was effused from the dilated and varicose spermatic veins; and that, especially in his case, the sudden increase of the tumour, three years before death, was due to the rupture of one of these vessels. Mr. Moore supposed that, although at first the rupture of a vessel from injury might give rise to effusion, yet the subsequent increase of the tumour might arise from hæmorrhagic exudation, favoured by congestion, from the delicate vessels of the false membrane resulting from the deposition of the fibrin of the blood originally effused.

Treatment. Mr. Bowman spoke in favour of early and free incision of the sac, so as to evacuate the blood, when a fair trial had been made of the ordinary milder measures. Mr. Curling thought that many cases could be cured by repeated tappings, except where the blood acted in a foreign body, producing irritation. Mr. Arnott drew a comparison between hæmatocele and

cystic collections of blood in the neck and other parts of the body. When the blood was coagulated, he believed free incision the best treatment; but when it was fluid, he would be inclined to try injection of iodine.

Tuesday, May 14, 1850.

Dr. Addison, President, in the Chair.

Excision of the Os Calcis, in Incurable Disease of that Bone, as a Substitute for Amputation of the Foot. By W. B. Page, Esq. (Communicated by T. B. Curling, Esq.) The patient, whose case was related, was a scrofulous boy, 16 years of age, affected with caries of the os calcis, arising from injury. Several sinuous passages reached to the diseased bone, from an ulcer situated below the inner ankle. Having improved the boy's health by nourishing diet and cod-liver oil, Mr. Page determined to remove the os calcis. This he effected by making an incision from below the ulcer across the sole of the foot to just below the fibula. Having reflected this flap, and divided the attachment of the tendo Achillis, he separated the os calcis from its attachments on each side and to the astragalus. He then separated from the under surface of the bone, a flap, formed by two incisions along the side of the foot from the margin of the first as far as the attachment of the os calcis to the cuboid bone, and divided the attachments of these bones. The astragalus and cuboid bones appeared quite healthy. The patient subsequently suffered from inflammation and erysipelas, but made a satisfactory recovery, and left the hospital in fourteen weeks. In sixteen months, the foot continued sound, and he was able to extend it perfectly when sitting.

Case of Stricture of the Rectum, in which an Artificial Anus was Successfully Established in the Left Lumbar Region. With Remarks. By Croker Pennell, M.B. Lond. (Communicated by B. Phillips, Esq.) The patient was a gentleman aged 50, labouring under stricture of the rectum. From violent and repeated straining at stool, the bowels ulcerated, and the fæces escaped into the urethra and bladder. He had, moreover, a very narrow structure of the urethra. He suffered much from an inflammation and frequent obstruction of the urethra, and also from inflammation and partial suppuration of the testicles. The operation of forming an artificial anus in the left lumbar region was performed by Mr. Pennell, on Nov. 4, 1849; and, in seven weeks, the patient was entirely relieved of his sufferings, and able to walk about with ease.

Tuesday, May 28, 1850.

Dr. Addison, President, in the Chair.

On the Use of the Speculum in the Diagnosis and Treatment of Uterine Diseases. By Robert Lee, M.D., F.R.S. The author commenced by referring to the ancient history of the speculum, and exhibited a representation, in the work of Vulpes, of the speculum magnum matricis, found in Pompeii. He then noticed the use of the speculum in France, in the hands of Recamier and Lisfranc; and referred to its employment in that country and in Germany as an instrument of police, in the examination of prostitutes. The object of the paper was to define its legitimate use and real value. Dr. Lee had derived little or no aid from the Speculum in the diagnosis and treatment of malignant and non-malignant organic diseases, and of displacements of the uterus. He used it in unmarried women, only when there was severe pain in the uterine region; but he frequently employs it in morbid females, in cases of obstinate leucorrhœa. As to the alleged frequency of ulceration of the os and cervix uteri, Dr. Lee made some statistical statements, for the purpose of shewing that the disease was not nearly of such frequent occurrence as had been represented. He had never met with ulceration of the os and cervix in the living body, except of a specific character, especially scrofulous and cancerous; but he had met with a considerable number of cases in which, though absent, it had been affirmed by others to exist, after they had made a careful examination with the speculum.

Summary of Discussion. *Use of the Speculum.* Dr. Ashwell denounced the use of the speculum uteri, as subversive of female safety and delicacy, and as having become almost a professional dishonour. Mr. Acton, Dr. Murphy, Dr. H. Bennett, and Dr. Locock, defended its use, as a valuable instrument, and as being capable of employment without outraging feelings of delicacy. At the same time, they admitted that it was liable to abuse; which, however, was by no means a ground for its total suppression.

Frequency of Uterine Ulceration. Dr. Ashwell stated that post-mortem examinations shewed that ulceration of the os and cervix uteri was much less frequent than is generally supposed; it having been found in only twenty-five cases out of 1000. Mr. Acton, Dr. Murphy, Dr. H. Bennet, Dr. Stewart, and Dr. Locock, considered the statistics of Drs. Lee and Ashwell incorrect, as they had met with the affection much more frequently. The post-mortem examination referred to, had been made on patients taken indiscriminately, in general hospitals; and moreover, the appearances of inflammation might disappear after death.

Use of Escharotics. The objection made by Dr. Lee to the use of escharotics to the os uteri, because granular affections of conjunctiva were produced by caustic, was opposed by Mr. Acton, Dr. Murphy, Dr. H. Bennet, Dr. Stewart, and Dr. Locock. They considered their use indispensable in many cases; but admitted that caution was necessary.

EPIDEMIOLOGICAL SOCIETY.

A very numerous and influential meeting of the friends of this Society was held on Tuesday, the 30th of July, at 8 p.m., in the Hanover Square Rooms. Lord Ashley was in the Chair. Excellent addresses were delivered by the noble Chairman, and other speakers. Dr. Babington stated, that the honour of originating the Society belonged not to him, but to Mr. Tucker of Berners Street.

The following resolutions were unanimously carried:—

1. That a Society be forthwith established for the investigation of Epidemic diseases, to be called "The Epidemiological Society"; and that all gentlemen interested in its objects shall be eligible as Members. [*Moved by* Dr. Babington, *and Seconded by* Dr. Addison.]
2. That the Society shall be governed by a President, Vice-President, Councillors, and other officers. [*Moved by* Dr. Golding Bird, *and Seconded by* Mr. J. Propert.]
3. That Dr. Babington be requested to accept the office of President. [*Moved by* Mr. R. D. Grainger, *and Seconded by* Dr. Sibson.]
4. That the following gentlemen be requested to act as Vice-Presidents:—Dr. Addison, Dr. Bright, Sir B. C. Brodie, Sir William Burnett, Sir C. M. Clarke, The Rev. T. Dale, Mr. R. D. Grainger, Sir Charles Hastings, (Worcester), Dr. Haviland, (Cambridge), Sir James MacGrigor, Mr. J. Nussey, Mr. J. Propert, Dr. Roupell, Dr. Thomas Southwood Smith, Colonel Sykes, and Dr. Thomas Watson. [*Moved by* Mr. Charles Hawkins, *and Seconded by* Mr. William Rogers.]
5. That the following gentlemen do constitute the Council:—Mr. Jacob Bell, Dr. James Bird, Dr Golding Bird, Dr. A. Bryson, R.N., Mr. G. Busk, Dr. W. B. Carpenter, Mr. R. Greenhalgh, Dr. W. W. Gull, Mr. E. Headland, Dr. A. Halsham, Mr. T. Hunt, Dr. W. Jenner, Dr. R. G. Latham, Dr. H. B. Leeson, Dr. J. O. M'William, Mr. J. Marson, Dr. E. A. Parkes, Mr. W. Percivall, Dr. E. C. Seaton, Dr. Francis Sibson, Dr. E. Sieveking, Mr. J. Simon, Dr. J. Snow, and C. R. Walsh, Esq. [*Moved by* Dr. Roupell, *and Seconded by* Mr. C. B. Lord.]

LONDON SOCIETY FOR ESTABLISHING SELF-SUPPORTING DISPENSARIES.

The meeting to which we adverted in our last, p. 808, was held on Monday, the 29th July, at 8 P.M., in the Hanover-square Rooms, MR. BENJAMIN B. CABBELL, M.P., in the Chair. The Chairman having, in a short and forcible address, stated the objects of the Society, called for the Report of the Council.

MR. T. D. HAWKER, the Secretary, then read the Report. It had been pleaded, that Self-Supporting Dispensaries might be injurious to private practice; but this could not arise, as they would only be open to those who, while they were utterly unable to pay the *usual*, or what might be termed the *proper* remuneration for medicine and medical advice, had a wholesome and honourable repugnance to apply as paupers to the relieving officer for an order on the parish doctor. By weekly subscriptions, of about one per cent. on their earnings, the working classes (who would otherwise have to remain neglected, or seek charitable relief in sickness), would at all times, when attacked by indisposition, be entitled to receive medical assistance from a practitioner of their own choice. The Society proposed, that Self-Supporting Dispensaries should be everywhere established, and that all the medical practioners of any district should be allowed to enrol themselves as medical officers of the Self-Supporting Dispensary of that neighbourhood: *the members, at their entrance, having the right of selecting their own medical attendant.* The Report pointed out the mischiefs which flow to society, and the wrong done to the medical profession, by the system which now obtains in the London Hospitals and Dispensaries, two-thirds of the applicants to which are able, and generally not unwilling, to pay something for medicine and attendance, as Dr. Stewart had correctly stated in his pamphlet.

DR CORMACK (of Putney) had great pleasure in moving—"That the thanks of the meeting are due to the Council for the ability and diligence with which they have discharged their duties; and that their Report now read be received, and entered on the minutes of the Society." He had been a convert to Mr. Smith's principles from his first acquaintance with them; but he confessed that he had till now feared that their practical application was beset on every side with difficulties, so serious as to appear nearly insurmountable. He was inclined to hope, however, that a Society—having for its basis the Report now read—would be an effectual check on all abuses, as well as a rallying point from which to derive advice in all circumstances of doubt. The Society must at once form, and from the commencement of its operations be guided, by a stringent code of ethics; and no Dispensary should be recognized as under the wing of the Society, unless all the officers placed themselves under its jurisdiction. If the Society refused to sanction a Dispensary in any district, till there had been obtained the approbation of a majority of its legally qualified practitioners; and if all qualified practitioners were entitled to participate, on an equal footing, in the medical management, he (Dr. Cormack) did not see how the profession could oppose, or be in any way jealous of Mr. Smith's schemes. It was only upon the distinct understanding that the Self-Supporting Dispensaries, or Provident Dispensaries, as he preferred to call them, were to be open to the whole profession, and to be so conducted as not to injure legitimate practice in poor neighbourhoods, that he (Dr. C.) gave his support to the present movement. He thought that the boon, proposed by Mr. Smith, might be extended to the industrious classes, without injuring even the humblest members of the medical profession.

J. PROPERT, Esq. in seconding the motion, warmly advocated the philanthropic objects of the Society. He had formerly been opposed to these Dispensaries on theoretical grounds, but the evidence afforded by the working of these institutions in various places, and a careful examination of the whole

subject, had now made him their warm advocate and supporter. To the utmost of his ability, he would promote the objects of the Society.

The motion was put from the Chair, and carried unanimously.

The Rev. David Laing, A.M., at the close of an eloquent and convincing speech, proposed the first resolution, to the effect, "that these Dispensaries are well calculated to secure for the working classes adequate medical assistance at a cost within their means, and to promote among them habits of frugality, forethought, and independence."

Dr. Moore (of Saville Row) seconded the resolution. He was a decided enemy to the Dispensary system now prevailing, and he would gladly assist in supplanting it by something better; for it was deeply injurious to the medical profession, and, as he well knew, demoralizing to the common people. He saw in the vigorous carrying out of Mr. Smith's plan, a remedy for most of the existing evils in our medical charities.

H. L. Smith, Esq. (of Southam) having been called on by the Chairman came forward and was received with loud and prolonged cheers. [In place of giving a meagre report of Mr. Smith's admirable address, we refer our readers to p. 368 of this volume, where will be found a paper by Mr. Smith, in which are embodied his leading facts and arguments.] Mr. Smith pointed out how Self-Supporting Dispensaries, if fostered by Government, might be made signally instrumental in the regeneration of Ireland.

Mr. Becke, of Northampton, who had come to town to attend the meeting, bore the strongest testimony to the excellent effects produced in his town by the operations of the Self-Supporting Dispensary. It had been of advantage to the profession; and had greatly improved the condition and the comforts of the labouring classes.

Mr. J. Bacot (of Portugal-street) warmly advocated the objects of the Society. He had enlisted in the cause from a thorough conviction, that it was in every respect worthy of the patronage of all who have at heart the character of the medical profession, and the good of the labouring classes. The independent labourers were the pride and the stay of the nation, and to preserve that class of the community in their independence, was true patriotism. Mr. Smith's plan he regarded as capable of being made a great political engine for the regeneration of the mass of the people.

Mr. Samuel Gregson (Chairman of the Committee of the Self-Supporting Dispensary, Charlotte-street) though not a member of the medical profession, was anxious to say a word in support of the resolution. He had long, and with much sorrow, observed the decline of *self-reliance* among the working classes, especially as regarded a provision for sickness, or adversity, in any form. He was sanguine enough to believe that the Self-Supporting Dispensaries would, if subjected to proper control, go far to redeem the degeneracy to which he had alluded, and which had arisen in a great measure from bad legislation, and mistaken philanthropy.

The Resolution was put from the Chair, and carried unanimously.

The Rev. Wm. Owen (of Islington) proposed "the thanks of the meeting to H. L. Smith, Esq., for his disinterested and untiring exertions in the cause of humanity, especially as evinced in his endeavours to diffuse the benefits of Self-Supporting Dispensaries." Statesmen and warriors were applauded and rewarded when living; and, after their death, monuments were reared to commemorate their deeds: but the benefactors of the human race who have arisen in the medical profession have generally died unrewarded and forgotten. Mr. Smith had, however, fortunately reared for himself many monuments, for his name was already inscribed on the grateful hearts of thousands of his fellow countrymen.

Dr. J. Bompas (of Camberwell) seconded the resolution, which was carried by acclamation.

Mr. H. L. Smith having returned thanks, and a hearty vote of thanks to Mr. Cabbell having been passed, for his conduct in the chair and his kindness in taking it, the meeting separated.

PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

The Eighteenth Anniversary Meeting was held at Hull, on Wednesday the 7th, and Thursday the 8th of August, 1850. The following gentlemen were present.

Barton-on-Humber. W. H. Eddie, Esq.; John Morly, Esq.
Bath. Edward Hodges, M.D.; James Tunstall, M.D.
Beccles, Suffolk. Henry Davey, Esq.
Beverley. R. G. Boulton, Esq.; Thos. Sandwith, M.D.; H. Llewellyn Williams, M.D.; J. Williams, M.D.
Boston. Edward Ingram, Esq.
Brigg. James B. Moxon, Esq.
Cambridge. G. M. Humphrey, Esq.
Canterbury. James Reid, Esq.
Crayke. H. Y. Whitehead, M.D.
Croydon. George Bottomley, Esq.
Dorchester. G. Curme, Esq.
Farnham. William Newnham, Esq.
Great Grimsby. John Bell, Esq.; Thos. Bell, Esq.
Hanwell. J. Conolly, M.D.
Harrogate. G. Kennion, M.D.; Thos. Parry, Esq.
Hastings. James Mackness, M.D.
Hayes, Middlesex. W. Conolly, M.D.
Hedon. H. Cantly, M.D.; W. Kirk, Esq.
Helmsley. John Ness, Esq.
Hessle. F. B. Anderson, Esq.
Hillingdon. A. Stilwell, M.D.
Hull. A. O. Arden, Esq.; R. Atkinson, Esq.; C. Beckett, Esq.; J. P. Bell, M.D.; Dr. Breslin (46th Regt.); F. W. Casson, Esq.; Henry Cooper, M.D.; R. M. Craven, jun., Esq.; Owen Daly, M.D.; J. Dossor, Esq.; H. Gibson, Esq.; John H. Gibson, Esq.; R. Hardy, Esq.; W. B. Hay, Esq.; E. Healey, Esq.; F. R. Horner, M.D.; F. Huntington, Esq.; C. A. Lee, Esq.; J. A. Locking, Esq.; G. Lowther, Esq.; W. J. Lunn, M.D.; John M'Millan, Esq.; G. Millin, Esq.; H. Munroe, Esq.; J. L. Nicholson, Esq.; J. Parkinson, Esq.; W. Quin, Esq.; H. Sandwith, M.D.; R. L. Slight, M.D.; Edw. Wallis, Esq.
Hunslet, near Leeds. R. Pullan, Esq.
Keyingham. George Houlton, Esq.
Kirkella. Thomas Hobson, Esq.
Leeds. R. P. Bell, M.D.; C. Chadwick, M.D.; J. P. Garlick, Esq.; William Hey, Esq.; W. Price, Esq.; S. Standidge Shackles, Esq.
Leicester. J. Barclay, M.D.
London. J. Churchill, Esq.; S. Hare, Esq.; C. A. Newnham, Esq. (Guy's Hospital); F. Sibson, M.D.
Manchester. S. Crompton, Esq.; J. Hatton, Esq.; Edmund Lyon, M.D.
Market Weighton. Matthew Jackson, Esq.; R. Jefferson, Esq.
Much Wenlock. W. P. Brookes, Esq.
Northampton. Archd. Robertson, M.D.
Nottingham. Booth Eddison, Esq.
Ollerton. J. W. Lilly, Esq.
Oswestry. Peploe Cartwright, Esq.
Patrington. Thomas Smith, Esq.
Pocklington. Thomas Hornby, Esq.
Retford. Edward Ballard, M.D.
Rugby. James Paxton, M.D.
Sheffield. Fergusson Branson, M.D.; W. Jackson, Esq.
Skirlaugh. C. Richardson, Esq.
South Cave. Edward Des Forges, Esq.; John Hill, Esq.
Stockport. Richard Flint, Esq.
Sunbury. J. S. Soden, Esq.
Thorne. Tom Guy, M.D.
Thrapston, Northamptonshire. J. G. Leete, Esq.
Timsbury. James Crang, Esq.
Torquay. C. Radclyffe Hall, M.D.
Wetton. Thomas Jackson, Esq.
Worcester. Sir Chas. Hastings, M.D.; J. P. Sheppard, Esq.; J. H. Walshe, Esq.
Yarmouth. C. L. Robertson, M.D.
York. J. W. Metcalfe, Esq.; T. Simpson, Esq.; Caleb Williams, M.D.

The First General Meeting

was held in the Lecture Hall of the Hull Literary and Philosophical Society, on Wednesday forenoon, at ten o'clock.

Dr. F. R. Horner, on taking the chair, delivered the following address:—

"Gentlemen,—I give you my best thanks for the honour—the very high honour, you have now conferred upon me. I am acutely sensible, how many and how manifest must be my shortcomings in performing, in an efficient and worthy manner, the duties of my office; especially as those who have preceded me, were ever men who not only occupied the highest ranks in professional standing, but who were, moreover, eminent for their general literary and scientific acquirements. It was to such activity and vast scope of mind that this Association owes its own institution; for, many as were the then

existing societies of learned bodies of men, it was the penetrating mind of Sir Charles Hastings that discovered yet another field, on indigenous or provincial soil, capable of yielding rich store of knowledge; and how fruitful has been that field, the records of medical and surgical science bear ample testimony. Nay, so important have been the results, so vast the benefits, which have accrued from this Association, and which to future ages may accrue to the profession, to medical science, and to the community at large, that justly, I conceive, is our learned founder entitled to exclaim, with the poet of old, *monumentum exegi ære perennius!* I cannot but congratulate you on this noble work of eighteen years, nor forbear expressing a due tribute of respect to one whom even Majesty itself delighteth to honour, and through him, those with whom he is associated.

"In any allusion to those learned presidents who have preceded me in office, and who have, in an especial manner, promoted the great aims and objects of the Association, I cannot but refer, with feelings of the deepest mourning and respect, to one whose career on this earth has closed for ever. It is but four years since the late Mr. Crosse, of Norwich, addressed you from the chair; and all of you will well call to mind his luminous remarks, his energy and zeal for the cause. He then congratulated you that in his own, the Eastern Branch, you had not that year been deprived of one member by death; would—would that it had been reserved for me also again so to speak! But, where now is his own great mind? that clear judgment, that penetrating intellect, that skilful hand, and that warm heart, overflowing with kindliest feeling? Alas! the silver cord is loosed, and the wheel is broken at the cistern. There are other valuable members, of whom we have this year been deprived by death, but I shall not further indulge in such mournful reflections; though surely it is a good and wise thing, sometimes to school the heart by thinking on the virtues of the great and good who have trod the path of life before us. The most sincere tribute to their memory is imitation of their example.

"I need not now speak of what has already been accomplished by the Association; it is with the future that we have now to do. The future standing of this Association before the world, and the amount of benefit that shall accrue from it, depend wholly upon the efforts which you are now prepared, or are willing to make. A great and responsible duty lies before you, not only to uphold the present structure in all its entireness, but to enlarge and to build upon the great foundation which has been laid. To this end, duty to ourselves, to each other, and to all, demands of you the single and the united effort. To this end I could wish that every member should cast at least one mite into our treasury of knowledge. Thus, let the hospital physician and surgeon, by careful record of well-selected cases, add to our knowledge and treatment of disease by practical deduction and suggestion;—let those gifted with the talent for scientific research, make known the result of their enlightened investigation;—let the practical physician and surgeon, of acute observation and reasoning—let those who delight in physiological inquiry—the pathologist, the anatomist—yea, let all the existing talent amongst us be but exercised, and then will the Provincial Medical and Surgical Association, (the ten talents committed to us,) yield to future ages one hundred-fold.

"All honour be to those (and they are not a few) who have so laboured; and who have thus earned for themselves the well-merited honour and esteem of men. But the medical labourer, whose mental toil is devoted to the virtuous and noble purpose of alleviating the burdens of others—the burdens of sickness and suffering—knows yet a higher reward than the applause of men. His is the reward of the still small voice—the approval of his own heart's feelings. Influenced by such feelings, our profession does indeed become the *ars divina*; imitating in its application the precepts and example of Him who healed the sick and the afflicted, and went about doing good; and inasmuch as it is done unto Him, verily the reward is not lost.

"Benevolence is the characteristic of our profession; and that this bright virtue has erected her stronghold in your Association, the existence of its BENEVOLENT FUND is at once alone the warrant and the testimony. I am assured, that it has already a far stronger advocate in your own hearts than it could have in any mere words of mine; yet the best of us sometimes require to be reminded of duty. Bear ye each other's burdens, is the language of Scripture itself; yea, rather it is the *command* of Scripture; for it is not written that you may, or you can, or you should, but the word is imperative—it is commanded, *bear* ye each other's burdens. It will, I believe, be seen by the report which your excellent Honorary Secretary, Mr. Newnham, will read to you, that a somewhat larger amount of support has this year been given to the Benevolent Fund than heretofore. It will also be seen by that report, down how many sweet channels the pure streamlets of benevolence have flowed; how it has now gladdened the heart of the widow, now brought succour to the orphans of our once fellow-labourers, and now given assistance to those of our brethren, who have been overtaken by distress and affliction. Surely, gentlemen, these are delightful things; may they come home to each of us, and strike the sweet chords of charity in every heart.

"On the subject of MEDICAL REFORM, I cannot refrain from expressing my regret, that those judicious and well directed efforts, so perseveringly exerted by the Association, should hitherto have ended in disappointment. Medical Reform seems to have been clogged by its own weight, or rather by the adverse weight of others, not of our body; it appears indeed that it is the *quot homines tot sententiæ*—diversity of opinion—that is the true let and hindrance. But surely it was not to be looked for, that there should be perfect unanimity of sentiment, amongst so large a body of men as that which comprises the medical public. Let us hope, however, and by perseverance in effort endeavour, to obtain the practical consideration, by the minister, of this great question.

"There is one species of reform, however, closely connected with our profession, on which I can offer you the fullest congratulation; it is SANITARY REFORM. It is not too much to say that Sanitary Reform, in the widest acceptation of the term, and in its fullest practical bearing, is by far the most important measure that marks the present era, nor can we place a limit to the present and prospective good which is comprised therein. We should take but a very inadequate view, did we confine its operation simply to the removal of diseases from the dwellings of the poor, or from the path of the rich. It asserts a much wider influence; it compasses also the elevation of the moral and intellectual condition of the poor. Doubtless there is a connexion and dependency between physical and moral purity. Small indeed would be our success, in attempting to implant sentiments of morality or religious or educational knowledge, in the minds of those who are surrounded by an atmosphere of filth, squalor, and neglect. Such scenes tend to lower or degrade the mind, and blunt its sensibilities and feelings; whereas cleanliness leads to order and decency, to industry, and to self-respect; to a state of mind and feeling, in fact, which renders it more fit for the good seed which the sower goes out to sow—for the seeds of morality, of religion, and of knowledge.

"Doubtless it was the Asiatic Cholera, that quickened the progress of sanitary reform. It was there seen, that neglect of the poor was also the endangering of the rich; and that it was better, because it was cheaper, to preserve the poor man in health and life, than to maintain his widowed and orphaned children. Yet I would bear willing testimony, that the higher classes in this town, and, I trust, elsewhere, were ever ready to come forward with pecuniary aid to succour those smitten with the disease, or to ward off its attacks from others. Let us hope that the sanitary regulations commanded by Parliament, may be efficient in staying or modifying its future approach. And let us further hope, if I may venture the remark, that, in any reappearance of the disease, medical men will rather seek to investigate, and to treat, the dis-

ease on something like rational principles, than to place, without thought or care, all their reliance, and that in every case, on the vaunted though mistaken efficacy of one single mineral.

"The Asiatic Cholera may justly, I conceive, be looked upon as a most merciful dispensation to this country, though, by reason of our blindness and ignorance, we are unable to perceive the dealings of Providence. How apt are the words of the poet:

> "All nature is but art unknown to thee,
> All chance, direction which thou can'st not see;
> All discord, harmony not understood,
> All partial evil, universal good;
> In spite of pride, in erring reason's spite,
> One truth is clear,—whatever is, is right."

"Terrible, indeed, is the lesson by which we have been taught wisdom; by which we have been made to see that we cannot pollute the pure air of heaven, without suffering the effects of pollution and disease; that we cannot mingle the matters of corruption and decay with the pure waters of the earth, without drinking in, and assimilating, the pollutions in our own bodies;—in a word, that we cannot do violence to the laws of nature, without suffering the penalty of broken laws. It is well that a nation should humble itself in fasting and prayer, when the Almighty chides; but it is only by obedience to the laws which He has given us, and by the fulfilment of our duty to the poor, to our fellow men, and to all, that we can expect immunity from His chastisement.

"I shall now conclude by performing towards you the most pleasing duty of my office,—that by, in bidding you, not only in my own name, but in that also of all my medical brethren, both in the town and neighbourhood, a most sincere, a most cordial, and a most hearty welcome to our good town of Hull." (Dr. Horner concluded by calling the attention of the members to the buildings and other objects of interest in Hull and its neighbourhood.)

Sir Charles Hastings. Mr. Caleb Williams moved, and Dr. J. Conolly seconded, the following resolution, which was carried by acclamation.

"That the members of the Association wish, at the commencement of their proceedings on the present occasion, to express to their esteemed President, Sir Charles Hastings, its founder, their cordial congratulations on the honour recently conferred upon him by Her Majesty; and to record the feelings of sincere gratification which it has afforded them, whether regarding it as an honour eminently deserved, or as a most gracious acknowledgement on the part of the Queen, of those accomplishments, exertions, and virtues which best contribute to adorn and dignify the medical profession."

Report of the Council, read by J. P. Sheppard, Esq. [We can only give extracts from this document.]

Financial Statement. The Receipts for the past year, together with £16 2s. 6d., the balance in hand in 1849, amounted to £1632 6s. 8d.; the Expenditure was £1522 8s. 2d., leaving a Balance of £109 18s. 6d. There was every reason to assert, that the Association was never more prosperous in this respect than at present.

Arsenic Committee. The Arsenic Committee have made their Report to the Council, in which they state that, after a laborious investigation, they recommended a Memorial to Sir George Grey, and a petition to both Houses of Parliament, praying that a remedy might be found for the great evils connected with the indiscriminate sale of arsenic. The Committee appointed two of their members, Dr. Hodgkin and Dr. Sibson, to confer with a Committee appointed by the Council of the Pharmaceutical Society; and, after attentive consideration and frequent conferences, resolutions, which will be found at p. 913, were adopted unanimously by the joint Committee, as the basis upon which a legislative enactment should be framed.

After the Council had received this Report, they lost no time in forwarding a memorial to the Secretary of State for the Home Department, and petitions to both Houses of Parliament, in compliance with and embodying the resolutions.

Dr. Robertson moved, and Mr. Soden seconded, the adoption and printing of the Report; which motion, after some discussing on the appointment of Editors to the Journal, was carried unanimously.

Dr. Conolly, of Hanwell, moved, and Mr. Booth Eddison, of Nottingham, seconded, "That the thanks of the meeting be given to the retiring President, Sir Charles Hastings, and that he be appointed a Vice-President of the Association." It was then moved by Dr. Stilwell, and seconded by Dr. Radclyffe Hall, "That the thanks of the meeting be given to the Council of the Association for their services during the past year, and that they be requested to continue the same, with the following additional members: Dr. Cumming, Denbigh; John Lloyd, Esq., Llangefni; Dr. Williams, Wrexham; D. K. Jones, Esq., Llangefni; Dr. J. Roberts, Bangor; Dr. O. Roberts, St. Asaph; P. Williams, Esq., Holywell; Owen Richards, Esq., Bala; T. B. Winter, Esq.. Brighton; Dr. Tunstall, Bath: J. Garstang, Esq., Clitheroe; W. P. Jones, Esq., Holywell; T. Dorrington, Esq., Manchester; G. Scutham, Esq., Manchester; W. Bridsall, Esq., Northampton; J. M. Bryan, Esq., Northampton; Dr. C. Bell, Manchester; M. S. Barton, Esq., Market Raisen; Dr. A. Stilwell, Moorcroft House, Middlesex; Dr. Jenks, Brighton." Both these resolutions were carried by acclamation.

The Editorship. After reading a letter from the President and Secretary of the South Eastern Branch of the Association, complaining of the tone of the articles relating to Medical Reform, which had lately appeared in the Journal, Sir Charles Hastings proposed the following resolution, which was seconded by Dr. Robertson, and carried: "That the appointment of Editors made by the Presidents and Vice-Presidents be confirmed; and that a Committee of *five members* of the Association be appointed, to consider whether any and what further improvements can be effected in the publications of the Association; and that the letter from the President and Secretary of the South-Eastern Branch be referred to the Committee." Dr. Robertson, Mr. Soden, Dr. Conolly, Dr. Lyon, and Sir Charles Hastings, were named as the five members of the Committee.

Arsenic Committee. Dr. Tunstall, of Bath, next read the following report of the Committee, appointed last year to consider what means could be adopted with the view to stop the indiscriminate sale of poisons.

"The Committee on the Sale of Poisons, appointed by the Central Council of the Association, have the honour to submit the following report to the Anniversary Meeting. Your Committee, in conjunction with a Committee appointed by the Pharmaceutical Society, to co-operate with them, have agreed to three resolutions as the basis upon which a legislative enactment should be framed.

"1st. That the retail sale of arsenic should be restricted to chemists and druggists and apothecaries.

"2nd. That arsenic should only be sold to male adults or to their written order.

"3rd. That the vendor should enter the sale in a book, with the date and object for which it was required, to which the applicant and a witness, one or other being known to the vendor, should sign their names, unless a written order be brought in a handwriting known to the vendor, which order should be pasted in a book.

"These resolutions formed a portion of your Committee's Report, which is printed at page 183 of the *Journal* of your Association for 1850. A copy of this report was presented by the Central Council to the Right Honourable the Secretary of State for the Home department, in March last, in compliance

with his request, he being at that time unable to receive a deputation on the subject in consequence of his absence from London. Petitions, embodying the three resolutions of the Joint Committee, have been presented to both Houses of Parliament. Your Committee in conjunction with that of the Pharmaceutical Society, have accumulated a mass of facts which strikingly and conclusively show the great necessity of an enactment to put a stop to a system of secret poisoning, which, from the reports of the present assizes, appears to be unabated. Your Committee have the satisfaction of knowing, that the government has already in preparation, a bill for the wholesome regulation of the sale of poisons, and hope that another session will not pass without the adoption of an effectual law upon the subject. In conclusion, your Committee would urge upon the members of the Association the great importance of again petitioning the Legislature, and of individually impressing the great importance of the subject upon the several members of Parliament with whom they may possess any personal influence. Charles Hastings, M.D., President; John Hele Fuge, F.R.C.S.; Thomas Hodgkin, M.D., F.R.S.; Jonathan Toogood, M.D.; Francis Sibson, M.D., F.R.S.; James Tunstall, M.D."

Dr. Tunstall then moved "That a petition against the indiscriminate sale of poison be presented to both Houses of Parliament, similar to that presented in March last, and that the Branches of the Association be recommended to adopt similar petitions." The motion was seconded by Dr. Sibson, and adopted.

Dr. Robertson proposed, and Mr. Flint seconded, "That the thanks of the Association be given to the Arsenic Committee, and that they be requested to continue their labours until a satisfactory legislative enactment be obtained." A vote of thanks was carried by acclamation.

Second General Meeting.

The Association re-assembled in the same place at 2 p.m., Dr. Horner in the Chair.

Benevolent Fund. Mr. Newnham read the Report. Dr. W. Conolly moved, and Mr. Hey, of Leeds, seconded, the following resolution, which was carried unanimously: "That the report now read be approved, and that the thanks of the Association are eminently due, and are hereby given, to Mr. Newnham, for his great and important exertions in increasing the funds, and that he be requested to continue his valuable services as Honorary Secretary." Dr. Conolly called the attention of the meeting to the intended removal of the Committee of the Benevolent Fund to London. The following gentlemen were proposed as the Committee for the ensuing year, with power to add to their number: John Bacot, Esq.; Dr. Bernard; Dr. G. Burrows; Dr. Cannon; John Churchill, Esq; Sir James Clark, Bart.; Dr. William Conolly; Dr. John Conolly; T. C. Cook, Esq.; Thomas Copeland, Esq.; Dr. Forbes; Thomas Hudlett, Esq.; Thomas Hunt, Esq.; John Ince, Esq.; Dr. Lear; Frederick Salmon, Esq.; John Soden, Esq.; Jos. Toynbee, Esq.; Dr. Charles West; Dr. Charles J. B. Williams.

Report on Cholera. Mr. Sheppard, the Secretary of the Association, read the report of the Committee appointed last year, as to the nature, history, treatment, and prevention of Asiatic cholera, which had been prepared by Dr. Williams. It was then moved by Dr. Sibson,—

"That the thanks of this meeting be given to Mr. Hunt, of Bedford Square, London, for having made such strenuous exertions to obtain information from the members of the Association relative to the spread of the late epidemic cholera in this country; and also to Dr. Williams, of Worcester, for having made the abstract from the replies, which has been read at this Anniversary; and that the same be published in the ensuing volume of *Transactions* of the Association." Mr. Walsh, of Worcester, seconded this motion, which was carried unanimously.

Dr. Charles Radclyffe Hall then read a paper on the "Action of the Muscular Coat on the Bronchial Tubes." The thanks of the Association were, on the motion of Dr. Pearson Bell, of Hull, seconded by Mr. Booth Eddison, accorded to the author. The meeting then adjourned.

Third General Meeting.

Mr. Newnham, of Farnham, read a paper by Chas. Mayo, Esq., of Winchester, on a "Case of Malformed and Imperforate Vagina."

Address in Medicine. Dr. Henry Cooper, of Hull, read the Annual Address in Medicine. The subject was "Secondary and Associated Diseases."

Place of Meeting for 1851. It was determined that the meeting of the Association for 1851 be held at Brighton, a numerously-signed invitation having been received from that place.

Military Honours to Medical Officers. Mr. W. Penny Brookes moved the adoption of a memorial to Her Majesty's Government, advocating the claims of medical officers in the public services to military honours. The proposition was seconded by Mr. Soden, and adopted.

Address in Medicine, 1851. Mr. Newnham moved, and Mr. Bottomley seconded, "That, Dr. King, of Brighton, deliver the Address in Medicine at the annual meeting in 1851."

Medical Topography. Dr. Lyon, of Manchester, drew the attention of the Association to the long suspension that had taken place in the preparation of papers on the "Medical Topography of the Country"; and proposed, "that next year, in the district to be visited by the Association, a request be made that the subject be revived, either by adding to the papers already published in the Society's *Transactions*, or *viva voce*, or by some voluntary way, such as may meet the convenience of the party or parties on whom the performance may devolve." Dr. Sibson seconded the motion.

Dr. Sibson moved, "That Dr. Mackness, of Hastings, do prepare a paper on the Medical Topography of the county of Sussex, for the Anniversary Meeting of 1851." This motion was adopted unanimously.

Dr. Sibson delivered an interesting extemporaneous lecture, with illustrations, "On the Configuration of the Body in Health and Disease." It was listened to with great interest, and, at the close, warmly applauded.

Dr. Paxton, of Rugby, read a paper "On the Disintegration of the Blood", with illustrations. On the motion of the President, the thanks of the Association were voted to Dr. Paxton.

Dr. H. Sandwith, of Hull, read a report of a case of Plastic Bronchitis, which had come under his notice. Thanks were voted to Dr. Sandwith.

Both these papers were, by request, handed to the Secretary, to be published in the *Transactions* of the Association.

Mr. C. Beckitt, of Hull, read a paper on Therapeutics. And a paper by F. T. Probert, Esq., M.D., of Bury St. Edmunds, on "Diseases of the Lungs", was read by Dr. Tunstall.

A full account of the proceedings, and of the dinner, is given in the *Provincial Medical and Surgical Journal* for August 21st.

MISCELLANEOUS INTELLIGENCE.

HOUSE OF COMMONS. August 2, 1850. The Deputy-Coroner for Middlesex, and Homœopathy. Lord R. Grosvenor rose, in accordance with a notice given on a former day, to present a petition from the members of the English Homœopathic Association and others, complaining of the conduct of the deputy-coroner for Middlesex, in the case of an inquest upon the body of the late Richard David Pearce. The circumstances of the case to which the petition referred were so notorious, that it would not be necessary for him to detain the house by repeating them; he would therefore confine himself to the complaint of the petitioners. They stated that the hon. member for Finsbury, who was the coroner for Middlesex, had appointed a deputy-coroner in the person of his son, who on the occasion of an inquest on a Mr. D. R. Pearce, evinced so little knowledge of the duties of his office, that under his direction a verdict of manslaughter was found against a brother of the deceased, an accomplished and amiable gentleman, who was in consequence incarcerated in the felon's cell at Newgate for two days.

Mr. Wakley rose to order. The noble lord had said he would not read the petition, but he was now stating the circumstances, and stating them incorrectly. (Hear.)

The Speaker informed the noble lord that he must confine himself strictly to the statements contained in the petition.

Lord R. Grosvenor. The petitioners stated that this Mr. Pearce was committed to Newgate, and there confined for two days, and that when the case came before the grand jury, they ignored the bill, and that Mr. Justice Maule, at the trial, stated his opinion this way: "How any person can say this man has been guilty of manslaughter, I cannot imagine." The petitioners concluded by praying that a law might be passed to prevent coroners from appointing their own deputies, but making the appointment dependent on election by the freeholders of the county, in the same way as coroners. Perhaps he might be allowed to state, that as the petition complained of the conduct of the son of an hon. member of that house (Mr. Wakley), he had thought it his duty, not only to give notice to that hon. gentleman of his intention to present it, but to place it in his hands, in order that he might, if he could, take exception to it.

Upon the motion of Mr. Wyld, the petition was read at length by the clerk at the table.

It was then ordered to lie on the table.

Mr. Wakley expressed a hope that, if he was not exactly in order, he would be permitted, through the kind indulgence of the house, to address them on the subject of this petition. (Loud cries of "Hear, hear," and "Go on".) He would only occupy their attention for a few minutes. The petition contained allegations of a very trumpery character, and he was really surprised that the noble lord (R. Grosvenor), though he was the president of the Homœopathic Association, and ought to have informed the house of that fact, should have presented it. The affair to which it alluded took place last October; Pearce was tried at the end of October. Now, if the deputy-coroner had been guilty of any illegality at the inquest, why had not an attempt been made to quash the inquisition? (Hear, hear.) Surely that house was not the place to complain of it. He contended that the deputy-coroner had been guilty of no illegality upon the occasion, and that not a single person whose name appeared in the petition, would dare to state that he was at the inquest, or that he had heard a syllable of the evidence. That house was considered a better and a cheaper place for advertising the quackery of the Homœopathic Institution than the courts of law. He hoped, however, that hon. members would set their faces against this impudent proceeding. He called it "impudent", for he believed that a more audacious set of quacks

(loud laughter) did not exist, and could not be found on the surface of the globe, than were to be found in the Homœopathic Institution. It consisted partly of noodles and partly of knaves. (Great laughter.) The noodles formed the majority, and the knaves used them as tools; and if they could contrive to get into their hands some amiable noble lord, and stick him up as a president, they advertised their Association over the world, and then, as it often unfortunately happened in such cases, too many dupes were found to become the victims of their abominable designs. (Laughter, and applause.) Now, in this case, they had had the audacity to come to that house, and to make a charge against a public officer, who had simply discharged his duty, and discharged it properly. It was, perhaps, quite right that they should have a dread of coroners (and they had a natural dread of them; and now their object was, not only to advertise their Association by means of this petition at the cheapest possible rate, but to terrify coroners from the faithful discharge of their duties to the public. He knew not how far the house would allow them to succeed in their first object, but he knew that they would not succeed in their second. (Hear, hear.) Having read their petition, he sent for the constable employed in the case, and he desired him to go to the jurymen who sat upon the occasion, and to obtain their statement as to the conduct of the deputy-coroner. He now held in his hand the answer he had received from the jurymen touching the allegations contained in this trumpery document, and with the kind permission of the house he would read the answer of the twelve jurymen to the false allegations of the petitioners.

"We, the undersigned, having been twelve of the jurymen who acted at an inquest held on the 9th day of October last, in the parish of St. Pancras, Middlesex, on the body of the late Richard David Pearce, hereby willingly testify that the deputy-coroner, Henry Membury Wakley, Esq., who presided on that occasion, performed his duty in a most patient, able, and impartial manner; that he more than once stated to us in his summing-up that he did not consider there was evidence to sustain a charge of manslaughter; and afterwards, on attending at our request in the room where we were deliberating on our verdict, to explain a point of law, and to point out the technical form in which our verdict should be framed, on being told by us, when he entered the room, that twelve of us were for a verdict of manslaughter, he several times expressed a very strong opinion that it was much better that such a verdict should not be returned, because there was not sufficient evidence to justify and sustain such a verdict." (Hear, hear.)

This statement was signed by the jurymen, and their addresses were attached to their signatures. He was unacquainted with those gentlemen, and so was his son. They had not been seen by him on this occasion, and no application had been made to them except by the constable, and after the refutation they had given of the allegations of the petitioners it was unnecessary, in fact, it would be an insult to the house, to offer any further remarks on that part of the subject. (Loud cries of hear, hear.) But seeing the right hon. baronet, the Secretary of State for the Home Department, and also the noble lord at the head of the government, in their places, he thought it right to embrace the opportunity thus offered for making them and the house acquainted with the manner in which prosecutions at the Old Bailey were conducted. (Mr. Wakley here described the mode of proceeding at the Old Bailey, and the interference of a person who called himself a solicitor, and his attempt, after the trial, to obtain from the constable and witnesses a subscription as a reward for his labours. The description appeared to excite surprise in the house, and it elicited, on Wednesday last, a very able leading article in the *Times* newspaper.) Mr. Wakley concluded by observing, that this was a disgraceful state of things. (Hear, hear.) He trusted the right hon. the Secretary for the Home Department would take the subject maturely into consideration during the recess; and then, out of this trumpery petition, the community would be the gainers by having a public prosecutor employed. (Hear, hear.)

Lord R. Grosvenor hoped that, after the terms in which the Association of which he was president had been spoken of, he would be indulged for a few minutes while he vindicated that body and himself. (Hear.) He quite admitted that it was very inconvenient, generally speaking, that that house should be made the arena for attacks upon men in the performance of their public duties ; but sometimes it became necessary to bring forward complaints of the kind. He thought the circumstances of the present case were sufficiently grave to warrant his interference. The grand jury had ignored the bill, and the trial took place on the corroner's inquisition. The consequence of that was, that a man who had been suffering from a recent severe attack of cholera, and who was labouring under all the anxiety of mind incicent to his position, was committed to a felon's cell in Newgate, where he had no opportunity of seeing his wife and family, and where he was compelled to sleep on a mat and a horse-cloth. He was kept there for two days, until a judge in chambers could be seen, in order that a change in his condition might be effected. He was eventually removed, with the view of making room for the Mannings in his cell. (Hear, hear.) With regard to the Association which the honourable member for Finsbury had stigmatized as being composed of knaves and dupes, he (Lord R. Grosvenor) could only say that that Association was composed of gentlemen of high attainments, excellent medical education, and extensive practice, and therefore they could afford to pass by such attacks as had now been made upon them. He trusted the house would consider him justified in bringing so serious a case forward. Hear.)

Mr. Roebuck hoped that the house would be protected in future against the presentation of such wholly irregular and improper petitions as these, which, got up to promote personal objects under public pretences, were so managed as to evade the rules of the house by a sidewind. (Hear, hear.) The House of Commons was not a court of appeal from the Old Bailey. (Hear.)

Mr. Hume was glad of the occurrence of anything which directed the attention of the Government and of the house to the expediency of instituting a public prosecutor, an officer, as every day's experience manifested, eminently needed to protect the innocent, and to enforce the prosecution of the guilty. (Hear, hear.) He stated that the power of appointment to the deputy-coroncrship of Middlesex, was really vested in the lord chancellor.—[*Daily News*, Aug. 3.]

Honours to Medical Practitioners. State honours are rarely conferred on members of our profession ; and, as a general rule, Knighthoods or distinctions, of any kind, have been considered as unmerited, even by the most renowned and the most faithful of the medical officers of the army and navy. A civic knighthood has frequently fallen upon a physician or a surgeon, from his having been accidentally entrusted with the presentation of a congratulatory address to the Crown ; and probably such occurrences fully explain the small estimation in which is held the prefix of Sir, among our brethren. Within the last few weeks, however, the Queen has conferred the honour of Knighthood upon three very eminent and deserving men—Dr. (now Sir) Robert Carswell, Physician to the King of the Belgians, and Dr. (now Sir) Charles Hastings, the founder (and during last year the President) of the Provincial Medical and Surgical Association, and Dr. (now Sir) B. F. Outram, C.B., Retired Inspector of Hospitals and Fleets. We see no propriety in restricting such honours to three individuals ; for, without the slightest disparagement to Sir Robert Carswell, Sir Charles Hastings, and Sir B. Outram, we must say that there are others among us equally deserving of Royal favour. We have heard it hinted, that more than one of our eminent physicians and surgeons have declined the honour of Knighthood ; but for what reason, we know not.

The Order of the Bath. The Queen has been pleased to ordain a special statute of the Order of the Bath, for authorizing the admission into the Military Divisions of the Second and Third Classes of that Order, "such officers of the Commissariat and Medical Departments of the Army and Navy, and of the East India Company's army and navy, as by their meritorious services have already, or may hereafter be deemed by Her Majesty to have, deserved that distinction." Her Majesty has accordingly appointed to be ordinary members of the Military Division of the Second Class, or Knights Commanders of the said Order :—

Burnett, Sir W., Knt., M.D., Director-General of the Medical Department of the Navy.

M'Grigor, Sir James, Bart., M.D., Director-General of the Medical Department of the Army.

Thomson, James, Esq., Inspector-General of Hospitals on the Bengal Establishment of the East India Company's Service.

The Queen has also appointed to be ordinary members of the Military Division of the Third Class, or Companions of the Order, the following gentlemen :—

Franklin, Henry, Esq., Inspector-General of Hospitals.
French, James, M D., Inspector-General of Hospitals.
Grant, Sir James Robert, Knt., M.D., Inspector-General of Hospitals.
Gunning, John, Esq., Inspector-General of Hospitals.
Hillyar, R. P., Esq., Retired Inspector of Hospitals and Fleets.
Hume, John R., M.D., Inspector-General of Hospitals.
Liddell, Sir John, Knt., M.D., Inspector of Hospitals and Fleets.
M'Arthur, Duncan, M.D., Retired Physician of the Fleet.
Macleod, B.W., M D., Superintending Surgeon on the Bengal Establishment of the East India Company's Service.
Magrath, Sir G., Knt., M.D., Retired Inspector of Hospitals and Fleets.
Outram, Benjamin Fonseca, M.D., Retired Inspector of Hospitals and Fleets.
Renny, Charles, Esq., Superintending Surgeon on the Bengal Establishment of the East India Company's Service.
Richardson, Sir John, Knt., M.D., Inspector of Hospitals and Fleets.
Straker, C. D., M.D., Superintending Surgeon to the Bombay Establishment of the East India Company's Service.
Webb, Sir John, Knt., Director-General of the Medical Department of the Ordnance.
Woolriche, Stephen, Esq., Inspector-General of Hospitals.
Wylie, John, M.D., Inspector-General of Hospitals on the Madras Establishment of the East India Company's Service.

Study of Mental Diseases at Bethlem Hospital. Some years ago, through the exertions of Dr. Webster and other Governors, considerable alterations were made respecting the admission of pupils at this institution ; and, from recent reports made by the physicians, it appears that the advantages offered are appreciated. Last year, the school was better attended than during any former period. Lectures have been delivered by Sir A. Morison and Mr. Lawrence, and during the last session, Dr. Monro was engaged in giving a clinical course on the nature, the causes, and the treatment of insanity. We strongly advise medical students to take a course at Bethlem, Hanwell, or other Hospital where clinical lectures are given on insanity.

Medical Teaching for the Military and Naval Services. In the military hospitals of France,—viz., those of Paris, Lille, Metz, and Strasburgh,—the medical schools have been suppressed, from the present pressure on the treasury of the republic. In Great Britain, on the other hand, Sir George Ballingall and others assisting him, are urging upon Government the propriety of establishing chairs of military medicine and surgery in London and Dublin.

Popular Prejudice against Vaccination. Extraordinary as it may appear, it is still true that great prejudices unfortunately prevail amongst the common people respecting Cow-Pox, and its efficacy as a preventive against Small-Pox. From the last Quarterly Report of the Registrar General, it appears, that, in various parts of England, although variola has been very prevalent and fatal, there exists very great aversion to Vaccination. The extent to which this feeling is carried by the lower orders, will be shewn by the following extracts from the Notes appended to the Report. The facts are both curious and instructive, and well deserve the serious attention of the Legislature.

At Lewisham, in Kent, Small-Pox prevailed to a most unusual degree, and, except in about five instances, all the fatal cases were unprotected. In East Maidstone district, Small-Pox was very prevalent, and proved fatal to eleven persons, eight of whom had not been previously vaccinated. At Acton, in Hampshire, six persons died from Small-Pox, none of whom had been vaccinated more than eight days previous to the attack. At St. Thomas's, East Budleigh, in Devonshire, eleven individuals died from this malady, which had been propagated throughout the district by persons most violently opposed to Vaccination, who had inoculated their own families and those of neighbours, thus exposing others to the influence of the disease. In Walcot district, Bath, fourteen deaths occurred from Small-Pox, twelve of whom had never been vaccinated, and the other two, only a short time before, being infected with the variolous poison. In Bath Eastern district, four deaths occurred, all without previous Vaccination. In this and other localities of Bath, according to the Sub-Registrar, the lower orders are strongly prejudiced against Cow-Pox, many persons refusing to have their children vaccinated. A man was committed to prison for inoculating his own children with Small-Pox. In Wolverhampton, eastern district, twenty-two deaths occurred from Small-Pox, all without previous Vaccination, excepting two cases, in which it was doubtful whether the persons had ever been vaccinated. In Nottingham, St. Ann's district, six deaths occurred from variola, none of the patients having been vaccinated. It is also reported, that in one house, a family of eleven children were ill of Small-Pox at the same time, of whom three died, none had been vaccinated, excepting two infants, and even these had taken the complaint before vaccination, or immediately after. In the Exchange district of the same town, ten persons died from variola, eight of whom had not been vaccinated, as great prejudice prevails amongst the lower orders against Cow-Pox. The report states that a woman, in this locality, who had lost a child by Small-Pox, assured the sub-registrar, "*she would rather lose half a dozen by it, than fly in the face of Providence, by having one vaccinated.*" Other examples might be quoted, but the above references will suffice to show to what extent popular prejudices still prevail in many parts of the country.

Improvement in the College of Surgeons. In our recent articles on Medical Education, we adverted to the laxity of the examiners being such as to make it easy for the illiterate and ignorant to obtain the diploma. We rejoice to learn that within the last two or three weeks a more wholesome stringency has been introduced into the trials of candidates, by which the value of the diploma will be very greatly enhanced. Another important alteration, which we recommended, has also been adopted, viz., allowing candidates for the Fellowship, to go up for their examination in Latin, Greek, French, and Mathematics, "at any period after they have attained the age of eighteen."

Suppression of Quackery. A Society has been formed at Durham, "for the prosecution of unqualified practitioners, and for the suppression of quackery in all its forms, whether in the profession or out of it." The name of the Society is the *Durham County Medical Association*: and Mr. W. Green, Senior Surgeon to the Durham Infirmary, is Chairman.

Veterinary Doctors are, it is well known, in some districts, competitors with country surgeons for human practice. It would appear, that in Scotland, the former have considerable status, and are educated by human doctors. The following paragraph extracted from a Scotch newspaper, is illustrative of this statement. "Mr. Falconar, of Carlowrie, in the absence of Mr. Burn Murdoch, read the report of the committee on the Veterinary College, which was as follows:—"The examinations were conducted as usual by the *élite* of the medical profession in Edinburgh, and a number of veterinarians, among whom Mr. Legrew, the veterinary surgeon of the 13th Light Dragoons, now quartered at Jock's Lodge, should be specified as having given very valuable assistance. The examination lasted three days, and twenty-seven individuals received the diploma of the college. The proficiency of the students was such, as to call forth the approbation of all who were present; and Mr. Gabriel, the secretary of the London College, who attended the examination, expressed himself highly gratified at the correctness and variety of the students' acquirements." There cannot be a doubt that the Edinburgh Veterinary Examination, embracing as it does trials in pharmacy and anatomy, entitles to an honourable diploma.

Public Monument to the Duke of Cambridge. Meetings have been held for the purpose of raising a subscription to erect a monument to the late Duke of Cambridge, and few Royal personages have better claims to such a distinction, if a life spent in meritorious actions is the basis on which such claims should rest. Intellectually, the duke was not remarkable; but he had a fund of good sound common sense, which he brought to bear with great effect on several occasions where discord reigned in united charities. The number of charitable institutions with which he was connected was large, but, unlike many Royal and some noble persons whom we could name, he gave his money like a prince. With him it was not "*vox et præterea nihil*," but the substantial reality. If he put his name down for £20, he backed it with a note, and took care, moreover, to see that the money was properly expended. His curiosity was great, and his inquiries sometimes difficult to answer; for instance—that into the statistics of the ladies' "Cloak Room" at Kew Gardens! He came out with great force as a chairman at public dinners. We have him now before our mind's eye, with his bald head, and good humoured face flanked with snow-white whiskers, bright blue coat and star, white waistcoat crossed by the blue ribbon of the garter, and tall figure bent with age, standing up, pleading in that odd, loud, unmanageable voice of his, in behalf of some insolvent charity, or asking some millionaire "whether 'twasn't hard enough to get money, and harder still to keep it, hey?" But he is gone, and another bears his name and honours. To the present Duke of Cambridge the nation has been liberal, and we trust that he will follow in his father's footsteps, so far as the poor are concerned. Military glory may be dazzling, but at the close of life, when the "silver cord" is well nigh snapt, he will find more comfort in the retrospect of happiness he may have diffused by his generosity, than in the empty fame of the warrior.

British Association. The Annual Meeting was held last month at Edinburgh, under the Presidency of Sir David Brewster. It was well attended. The next meeting is to be held in 1851, at Ipswich.

APPOINTMENTS.

Briggs, Henry, Esq., appointed Demonstrator of Anatomy in University College, London.

Cadge, William, Esq., appointed Assistant-Surgeon to University College Hospital.

Jones, T. Wharton, Esq., F.R.S., appointed Ophthalmic Surgeon to University College Hospital.

Quain, Richard, Esq., F.R.S., appointed Consulting Ophthalmic Surgeon to University College Hospital.

Ranking, W. H., M.D., elected Physician to the Norfolk and Norwich Hospital.

OBITUARY.

Ainge, James, Esq., Surgeon, at Fareham, Hants, aged 63, on 28th July.
Aylward, Henry, Esq., Surgeon, of Chiselhurst, Kent, at the Vicarage, Chesham, Bucks, on 30th May.
Bow, W. F., M.D., formerly of Alnwick, at 7, South Gray-street, Newington, on 2nd June.
Canstatt, Dr. C., Professor in the Faculty of Medicine at Erlangen, aged 43, recently. He was well known for his contributions to Medical Literature, and was the editor, conjointly with Dr. Eisenmann, of the *Jahresbuch über die Fortschritte der gesammten Medicin in allen Ländern.* The profession is also indebted to him for a work on the Diseases of Old Age.
Coggins, Isaac, Esq., M.R.C.S., at St. Thomas' Hospital, of pulmonary congestion, aged 21, lately.
Croft, John C., Esq., Surgeon, late of Hayes, Middlesex, at Ealing, aged 28, lately.
Davis, Thomas, Esq., Surgeon, at Hampstead, aged 73, on 25th July.
Edwards, R. C., M.D., at 90, Oxford Terrace, Hyde Park, aged 37, on 19th Aug.
Grant, C. C. Hamilton, Esq., Surgeon, Royal Newfoundland Company, in Cambridge Street, Hyde Park, on 16th August.
Grattan, Copeland, Esq., Staff-Surgeon, late 65th Regiment, in Dublin, on 27th May.
Gray, Dr., of the 44th Regiment, at Malta, of cholera, lately.
Kent, C. W., Esq., formerly Surgeon to the Surrey Dispensary, aged 35, on 27th May.
Larkworthy, Dr. at the Presidency, Bombay, of cholera.
M'Cabe, James, M.D., at Cheltenham, aged 59, on 5th August.
Miles, John, Esq., Surgeon, of 78, Gracechurch Street, on 30th July.
M'Nab, David, M.D., H.E.I.C., at Auchadeshenaig, Mull, aged 53, on 5th June.
Mudie, Patrick, M.D., at St. Andrew's, on 11th July.
Paterson, Henry, Esq.. at Dalswinton, Dumfriesshire, aged 39, on 13th July.
Peatie, William, Esq., Surgeon R.N., at Durham Bank, Bonnyrigs, near Edinburgh, on 10th May.
Philips, B. L.. M.D., at Panola County, Mississipi, U.S., on 9th June.
Porter, W. Ogilvie, M.D., in Portland Square, Bristol, aged 76, on 15th August.
Pritchard, John, Esq., Surgeon, of Great Yarmouth, on 19th July.
Reece, Richard, Esq., F.S.A., F.R.C.S., at Cardiff, aged 78, lately.
Roques, Dr. Joseph, of Montpellier, formerly Physician to the Empress Maria Louisa, and author of "Medical Phytography", and "History of the Poisonous Mushrooms", at an advanced age, lately.
Snell, James, Esq., at Kingston, St. Vincent's, West Indies, aged 55, 6th August.
Thompson, William, Esq., of Kingston, Herefordshire, at Aberystwith, aged 43, on 30th July.
Veal, William, Esq., Assistant-Surgeon H.E.I.C.S., at Umballah, East Indies, on 9th April.
Wheatley, William, Esq., late Surgeon R.N., aged 45, on 9th August.
Whitcombe, William, Esq., Surgeon, at Presteign, Radnorshire, aged 39, lately.

BOOKS RECEIVED.

Bushnan on Cholera. London: 1850. Miller's Principles of Surgery. Second Edition. Edinburgh: 1850. Rapport sur les Traitements Orthopédiques de M. le Dr. Jules Guérin. Paris: 1848.

TO CORRESPONDENTS.

Colica Scortorum. With reference to this alleged disease, and our notice of Dr. Hassing's thesis at p. 756 of our last number, Dr. Tyler Smith remarks:—"The disease is, I suspect, merely the neuralgic inflammation of the tubes and ovaria, *common to prostitutes*,—an affection of the generative, instead of the intestinal canal." The suggestion of Dr. T. Smith is good, and probably correct.

Health of London. The very interesting and valuable half-yearly Reports of the principal facts connected with the public health and prevailing diseases of the metropolis, will be regularly continued by Dr. Webster in this Journal. The next paper will appear in our December number. Dr. Webster's remarks on the six months terminating March 30, 1850, will be found at p. 540 of the current volume.

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ORIGINAL COMMUNICATIONS.

THE STETHOMETER:

AN INSTRUMENT FOR FACILITATING DIAGNOSIS, BY MEASURING THE DIFFERENCE IN THE MOBILITY OF OPPOSITE SIDES OF THE CHEST.

By RICHARD QUAIN, M.D., Assistant-Physician to the Hospital for Diseases of the Chest at Brompton, etc.

It is well known, that the movements of the walls of the chest, during respiration, correspond to, and are influenced by, the state of the organs placed within or beneath them. Hence, then, in our investigations of the diseases of these organs, we invariably, and frequently in the first instance, examine these movements. In many cases, the modifications produced by disease are so great as to be at once evident to the eye, or to the eye assisted by the hand. In other, and much more numerous cases, the eye and hand cannot detect these alterations. Indeed, nothing is more common than to find observers, at the same moment, differing in opinion as to the greater or less mobility of a portion of one or other of the sides of the chest. Even the indefinite terms here used, "greater" or "less", become sources of fallacy and doubt. It is, therefore, very desirable that a mode of investigation, admitted by all to be most important, should be exact for observation, and definite for description. I felt this more particularly some years ago, when engaged in clinical demonstrations to students, of the different modes of investigating diseases of the chest; and I at that time endeavoured by various contrivances, constructed chiefly on the principle of the callipers, to surmount the difficulty. My friend, Dr. Sibson, was, however, then more successful than myself; and he introduced an instrument which, in his hands, has afforded very important results in the investigation of the respiratory movements of the chest and abdomen, both in health and disease.[1] Subsequent consideration led me to believe that an instrument, simple, portable and economical, capable of ready application and of affording very valuable

[1] Medico-Chirurgical Transactions, vol. xxxi.

information, might be constructed, on a different principle to any which I had previously seen. I explained my requirements to Mr. Delolme, chronometer maker, whose ingenuity has supplied many ingenious and beautiful contrivances of an analogous kind. The result has been the little instrument which I am now going to describe, and which has, in the hands of those who have used it, as well as in my own, been found very efficient for the intended object: viz., to measure the comparative mobility of opposite sides of the chest. It is susceptible of many other applications, to some of which I shall again refer, and which will, no doubt, suggest themselves to those into whose hands it may fall.

Description. The little instrument (see fig. 1[1]) consists of a flat case, not unlike a watch-case: on its upper surface is a graduated dial and an index, which stands at a maximum number, that may be considered a "zero." This case contains a very simple movement, by means of which the index can be acted on. A silk cord, which may be of a sufficient length to surround one-half, or the whole circumference of the chest, passes through an aperture in one side of the case. This cord acts on the index. When the cord is drawn out, or extended for the space of one quarter of an inch, it will be observed that the point of the index will once traverse the circumference of the graduated dial. In other words, when the index has gone once round, it shows that the cord has been extended one fourth of an inch. It will be further seen, that the dial is graduated, or divided, into fifty equal parts. Each of these parts is, therefore, equal to the fiftieth part of a quarter of an inch; that is, to the 1·200th of an inch.[2] The index is further capable of going round a second time, on an additional quarter inch of the cord being drawn out. Hence, two revolutions of the index are equal to half an inch of movement—an extent of motion sufficient for all practical purposes. The pedestal and circular foot, shown in the same figure, will be subsequently referred to.

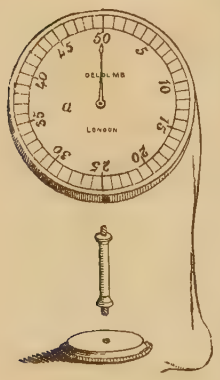

Fig. 1.

Mode of application. It is quite evident, that if the instrument be so placed that extension be made on the cord, the amount of the extension will be shown by the movement of the index on the dial. For example (as in fig. 2) if the instrument is laid flat on the spine, and held in its place by the first and second fingers of the left hand, whilst the cord is carried round the chest, and pressed on one of the ribs, or the sternum, by the fingers of the right hand, then, when the individual under examination expands the chest during inspiration, the amount of expansion will be communicated to the cord, and thus indicated on the dial. The cord may then be directed around the opposite side of the

[1] The instrument is reduced in this sketch to half size.

[2] In making and recording observations with this instrument, I am in the habit of expressing a fact thus: right apex, 30; left, 15. It will be understood that the motion is as 15 to 30, without reference to these figures being eighths, fiftieths, or two hundredths.

chest, and thus will be at once seen any difference which exists in the relative mobility of the two at the point under examination. It will, of course, be absolutely necessary in every examination, such as this, that corresponding parts of the chest be compared. For all useful purposes it may be said, that the movements of the opposite sides of the chest, in health, are identical—the difference which exists over the region of the heart, at the left side, is too immaterial to interfere with practical conclusions. The instrument may be applied to any part of the chest in the mode here described. In figure 3 it is shown as applied on the sternum, and beneath one of the clavicles. The latter position is one of considerable importance, from its connexion with the deposition of tubercle towards the summit of the lung. I find that on applying the instrument here the cord may, in this instance, be directed towards the arm more conveniently than in any other direction, as shown by the black line, and pressed against a point near the insertion of the deltoid muscle. The cord may also be directed downwards, or outwards, and upwards, or inwards, (as shown by the dotted lines,) and retained on any fixed point. Nor, as is evident, need this point be a part of the body. It may be on the bed, or on a chair, etc., always providing that the direction of the cord be such as to receive the impression of the movement of the part of the body under examination, and that its position be symmetrical at both sides.

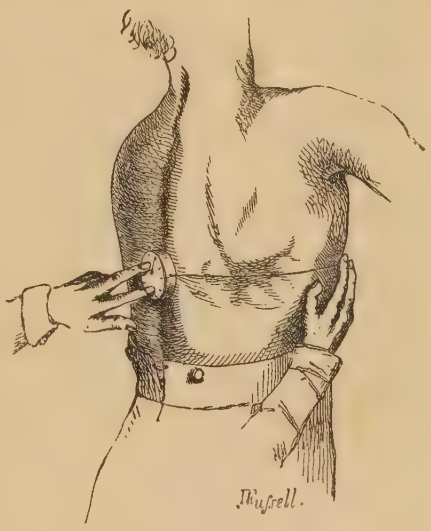

Fig. 2.

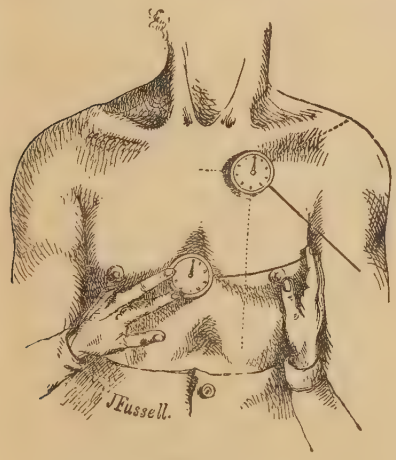

Fig. 3.

The use of the pedestal, which can be fixed in the side of the case with the foot attached, is shown in Figure 4. The instrument

thus used is intended to ascertain the modifications of the movements over a limited or circumscribed spot. On this spot, the foot is placed and held, (as shown in the figure,) by the fingers of the left hand, the cord directed towards this point is held between the fingers of the right hand. These fingers, being thus made the fixed point, must be kept steady and not allowed to touch the part under examination. The spring in the instrument is sufficiently strong to resist the gentle tension made by the fingers, and the instrument itself being pushed forward or raised by the elevation of the part during inspiration, the movement of the index, as when the case is applied on the flat surface, becomes the measure of this elevation.

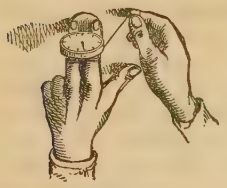

Fig. 4.

Such being the mode of using the instrument, it will be necessary to say a few words on the precautions which are required in securing accuracy in the result. 1st. It is absolutely imperative that corresponding portions of the chest be examined, and that the mode of applying the instrument, and the point at which it is applied at each side, be identical. 2nd. Care must be taken that the patient breathes in the same manner whilst opposite sides are being examined. 3rd. It should be seen that the cord, when the observation is commenced, is held sufficiently tense to act on the index.

All this requires attention and some little effort; for, as in all other matters, there is little that is of any value which can be obtained without some labour. Though to some few patients these carefully conducted examinations may be irksome, yet to the vast majority they are far otherwise. In the latter, they beget confidence in the medical attendant, and frequently at once inspire a feeling which renders all future intercourse not less pleasing than it is conducive to successful treatment.

Uses of the Instrument. The expansive movements of the chest during inspiration may be said to be the measure of the capacity of the lungs for air. So they are; and by an accurate measurement of the one, we might estimate tolerably correctly the other, and thus be able to compare the relative breathing powers of different individuals. It is exceedingly difficult to make this comparison by external measurement; for the movements of analogous or corresponding parts of the chest, even in those with unimpaired respiratory powers, are remarkably different in different individuals. For not only are such movements modified by age, sex, and occupation, but they are influenced by peculiarities beyond the influences apparently of any fixed or recognized rule. I therefore do not propose to use this instrument in testing whether A has a better breathing power than B. The spirometer of Dr. Hutchinson is a far more correct means of estimating this quality. I propose my instrument as a means of ascertaining any want of symmetry, independently of malformation, and therefore indicative of disease, in the movements of the corresponding parts of the same chest. It is not my intention to discuss here the various conditions, under which this want of symmetry may occur. Obstruction, for example, of a bronchus by a foreign body in, or by a tumour press-

ing on it, will interfere with the movements of the side of the chest containing the lung to which such bronchus is distributed. Disease of the substance of the lung, tuberculous, malignant, or inflammatory, and emphysema affecting the air-cells, also prevent the free expansion of the lungs or parts of them affected. Diseases of the pleura, viz., acute or chronic pleurisy; bands binding down the lung; pleuritic effusions or tumours in the pleura, have a like effect. Pleurodynia, and diseases of the external walls of the chest, may, of course, interfere with their free movements. However trifling the degree of limitation of motion, which may be produced by any of these diseases, or by many others not here enumerated, I believe this instrument, if properly used, will inevitably indicate it. When such limitation is thus observed, recourse must be had to the study of the general symptoms, and to the other means of physical diagnosis, to discover on what the irregularity depends. Thus, then, attention may be, in the first instance, directed by the use of the instrument to the seat of disease; or, when disease has been suspected or discovered by other means, mensuration will be useful in confirming the diagnosis, and expressing the extent of the local lesion. In both these senses, I have found the instrument an exceedingly valuable aid in the diagnosis of the earlier stages of phthisis. Indeed, it is quite remarkable how early, and to what an extent, the respiratory movements are modified by tubercular deposit. I hope, however, on some future occasion to return at some length to this and some allied subjects connected with the disease. It will, of course, be evident that if both sides of the chest are equally diseased, we lose the means of comparing them; but such an event is one of very rare occurrence. The instrument can also be used in investigating the movements of diaphragmatic or abdominal respiration, and in taking notice of any irregularity which may be produced in it by disease of any of the organs placed beneath the diaphragm.

My friend, Dr. Alex. Henry, has suggested to me, that not only can the instrument be used for measuring dynamical movements, but it can also be applied in following changes of volume, whether of increase or diminution, in solid tumours or other swellings. For this purpose, the instrument should, on every occasion of an examination being made, be placed on the same spot, and a definite length of cord should be used in encompassing the part examined; any increase of volume will, of course, be shown by the movement of the index. When it is required to follow a diminution of volume, the index, being made to revolve once or twice, should be thus retained, when the examination is commenced; the stages of its return to the zero point will be then the measure of decrease. Having thus given a brief description of this little instrument, of its mode of application, and of its uses, I present it to my professional brethren, with the desire that it may prove as useful to them as it has been to myself, and to those who have already used it.[1]

23, Harley Street, September 1850.

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[1] The instrument must have a name, and I have therefore called it a Stethometer. (*Στῆθος, the chest,* *Μετρέω, I measure.*) It may be procured from Mr. Coxeter, surgical instrument maker, 23, Grafton-street East, Fitzroy-square.

THE ENTRANCE OF AIR BY THE OPEN MOUTHS OF THE UTERINE VEINS, CONSIDERED AS A CAUSE OF DANGER AND DEATH AFTER PARTURITION.[1]

By JOHN ROSE CORMACK, M.D.Edin.; F.R.S.E.; Fellow of the Royal College of Physicians of Edinburgh; formerly Physician to the Royal Infirmary and Fever Hospitals of Edinburgh; Physician to Putney College, etc.

In connexion with the subject specially indicated by the title of this paper, it will be necessary to consider with attention, though briefly, the phenomena which follow the Introduction of Air into the Veins; and especially to call attention to the fact, that these phenomena vary exceedingly in character and degree according to certain circumstances, most of which seem to be explained by cases and experiments. The errors of opinion which have arisen as to some published cases, from inattention to the fact, that air may be generated within the blood-vessels during life, and after death, want of space will prevent me from considering upon this occasion.

The following remarks are divided into sections, so that the different topics may, as much as possible, be considered separately. The cases and experiments are introduced in the most convenient places, but of course they will often aptly illustrate particular points in all the sections.

I. The various Effects caused by the Entrance of Air into the Veins, and the Appearances found on Dissection. Detail of Experiments and Cases.

II. Statement of facts, proving that the Entrance of Air by the open mouths of the Uterine Veins may cause Dangerous Symptoms, and even Death. History and Critical Examination of some of the alleged Cases.

III. Prevention and Treatment of such accidents, after Parturition.

I. THE VARIOUS EFFECTS CAUSED BY THE ENTRANCE OF AIR INTO THE VEINS, AND THE APPEARANCES FOUND ON DISSECTION. DETAIL OF EXPERIMENTS AND CASES.

Till very recently, the opinions which have been entertained regarding the effects produced by the entrance of air into the organs of circulation, have been vague and contradictory. Even now, perhaps, they are not quite settled. There are several ways in which hazard arises, or death ensues, from the entrance of air into the veins. The phenomena and the issue are materially influenced by a variety of circumstances; but especially by the quantity of air introduced, the rapidity and force with which it enters, and the relation which the aperture, through which it gains admission, bears to the calibre of the vein in which is the aperture.

Bichat, Sir Charles Bell, and others, have maintained that extremely small quantities of air introduced into the veins prove fatal: but this

[1] This paper was read before the Westminster Medical Society on the 23rd of March, 1850; and a short abstract of it appeared at p. 589 of this Journal for June 1850. It was likewise shortly reported in the *Lancet, Medical Times, Medical Gazette, Edinburgh Monthly Journal, Provincial Medical and Surgical Journal, Dublin Medical Press,* as well as in several foreign medical periodicals.

notion has been completely disproved. The entrance of air, even in considerable quantity, into the circulation, is by no means necessarily fatal. Experiments on animals, and cases which have occurred in the human subject, alike testify to the accuracy of this statement.

The following is an exact account of an experiment which I performed on a rabbit:—

EXPERIMENT. A large quantity of air was injected into the jugular vein. Very violent effects were produced; so violent, indeed, that the animal seemed for twenty minutes to be in a moribund, or at least in a very critical state. To our astonishment, however, it gradually came round; and, in about an hour, the respiration, which was at first very laboured, became tolerably natural, and the rabbit was soon little out of sorts. In a few hours afterwards, the breathing, as far as I could judge, was quite natural, and the animal ate food with avidity. I kept it for sixteen days, and never observed anything wrong, except an abscess which formed in the seat of the operation. Upon dissection, immediately after killing it, the lungs were found to be perfectly healthy, and there was no air in any of the blood-vessels.[1]

I believe it often happens that air enters the veins during operations; sometimes the quantity is so small, as to produce no notable manifestations; and at other times, after the characteristic symptoms of the accident have been produced in an alarming degree, the case has, without any special treatment, terminated favourably.

A very apt illustration of this remark has been kindly communicated to me in the following letter from Sir B. C. Brodie.

"21 *March*, 1850.

"MY DEAR SIR,—I send you the case, which is quite at your service.

"CASE. A young lady consulted me in the year 1842, on account of a large tumour occupying one side of the neck. The tumour was fully covered by the sterno-cleido-mastoideus muscle; but it was quite moveable on the parts below. In the operation for the removal of the tumour, I found it necessary to divide the muscle, which lay over it. In the course of the dissection, it was discovered that the internal jugular vein was so intimately connected with the under surface of the tumour, as to be inseparable from it; the tumour itself lying in contact with the carotid artery and pneumogastric nerve. Under these circumstances, I was led to apply a ligature to the vein above, and another to the vein below the tumour, and then remove about three inches of that vessel with the tumour. Towards the conclusion of the operation, on dividing some parts near the clavicle, a branch of the principal vein was wounded, and immediately a hissing sound was heard, which I concluded to have been produced by air entering the wounded vessel. The patient became faint, so that the pulse at the wrist could scarcely be felt, and she was at the same time insensible. I caused her to be laid on the floor, where she remained insensible and faint for half an hour, and then gradually recovered, so that she could be removed to bed. On the following day she was apparently well, but wholly unconscious of what had occurred, from the time of her becoming faint, until the expiration of several hours. The tumour was of a fibrous

[1] Author's Inaugural Dissertation on the Presence of Air in the Organs of Circulation. Edinburgh, 1837, pp. 28-29.

structure, not apparently malignant; and two or three years afterwards, there had been no return of the disease. No inconvenience had ever arisen from the removal of the internal jugular vein.

"Mr. Kennedy, of Tavistock Square, attended the patient with me.

"Yours truly, B. C. Brodie."

Another interesting illustration of the good hope which there is of recovery, when the quantity of air admitted is small, occurred in 1848, in the practice of Mr. Gay; and has been detailed and commented upon in an instructive manner by Mr. G. F. Lane, in the *Medical Gazette* for May 31, 1850, p. 926. The following is a slightly abridged account of the case.

Case. *Admission of Air by a Wound in a Branch of the Axillary Vein. Alarming Symptoms. Complete Recovery.*

Mrs. Simkiss, æt. 46, a married woman, of light complexion, usually of good health, and the mother of eight children, had a painful tumour in the axilla, which had first appeared on weaning her youngest child six years ago. On the 7th of February, 1848, it was removed by Mr. Gay, the patient being under the influence of chloroform. In dissecting out the tumour, a tributary branch of the axillary vein was wounded near the chest; the opening was small. Air was seen, both by Mr. Gay and myself, to enter the orifice, accompanied with a peculiar noise, sufficiently loud to be audible to all present: the sound being quite characteristic of the entrance of air and fluid through a contracted opening, or of air drawn through fluid,—something between gurgling and hissing, and resembling the sound heard when, in drawing the last portion of a fluid from a vessel into a syringe, some air accompanies it. A great change was immediately noticed in the condition of the patient: the powers of the circulation sank; the woman, who had nearly recovered from the effects of chloroform, became exceedingly faint, and sank down in the chair. Mr. Gay instantly detached the portion of gland he was engaged in removing, and applied pressure above the opening in the wounded vein. The pulse was now imperceptible; the face deadly pale. Brandy was freely given, the wound closed as speedily as possible, the arm brought to the side, and the woman placed in the recumbent position. The surface of the body became cold, and the patient seemed scarcely to breathe, Ammonia was held to the nostrils; bottles of hot water were applied to the feet; the legs and arms were rubbed continuously; the feet and hands immersed in hot water; hot brandy and water poured down the throat in considerable quantities, and subsequently some sulphuric ether. After the lapse of an hour and a half, during which these measures were continued, the pulse at the wrist could be detected beating regularly, and the woman began to regain her consciousness, which she had lost immediately after the entrance of air into the vein. After this, she fell into hysterical fits, which soon passed off again, and after two hours she was placed on the bed, so far recovered as to admit of a compress being applied, and the arm bandaged to the side; the pulse beating 80 in a minute, regular, but feeble. She was ordered spiritus ammoniæ aromaticus, in mistura camphoræ, every four hours. She recovered without any bad symptoms. There has been no return of the disease; and her general health has been better since than before the operation.

Regarding the circumstances which modify the effects produced by the entrance of air into the veins, I entertain, substantially, the same opinions which I expressed in 1837, and which have been largely noticed by numerous subsequent writers, and likewise pretty fully adopted by the two authors who have most elaborately discussed the subject, viz., Professor Wattmann of Vienna, and the late Professor John Reid of St. Andrew's. As my Thesis has been long out of print, I give the following passage at length.

"Very considerable quantities of air may be introduced into the circulation without producing death. The concurrent testimony of a variety of experimenters establishes this beyond the possibility of doubt. Sometimes the patient to whom the accident happens, or the animal experimented on, suffers only transient inconvenience, or makes a complete recovery; and, in other instances, death ensues so late as some days after the admission of the air. Two very interesting subjects of investigation are thus presented to our notice. In the first place, what are those circumstances which thus modify the result? And, then, what is the nature of the modifications which occur under these varying circumstances?

"The different modifying causes are:—

1. The *quantity* of air admitted:
2. The *rapidity* of its admission: and
3. The *situation of the orifice* through which it enters.

"That *the result is modified, to a very great extent, by the quantity of air admitted*, it is unnecessary to insist upon at any length. The experiments of Nysten, Magendie, Wing, and others, clearly shew that it is only when introduced in considerable quantity that there is a fatal issue. This I have satisfied myself of by repeated experiments. The same fact has also been stated by Dr. Blundell, in his memoir on the transfusion of blood. It is probable, that when slowly introduced, the oxygen is either in whole or in part absorbed, and the volume of the elastic fluid thus materially diminished. That such absorption does really take place, there can be no doubt; for the experiments of Dr. Christison distinctly prove that the oxygenation of the blood is a purely chemical process, and that even out of the body venous blood absorbs a large quantity of oxygen, and changes its purple for a florid hue. Nysten infers from various experiments, that some of the injected gas may be thrown off by the lungs."[1]

To shew the truth of these remarks, I will now relate three of the many analogous experiments which I have performed on animals.

Experiment. *Sudden Introduction of Air into the jugular vein of a horse: convulsions: death in three minutes. Enormous distension of the right auricle with frothy blood: air in every visible vein.*

The subject of this experiment was a horse about seventeen hands high, and in pretty good condition, but which was condemned to death on account of an incurable cancer of the foot. A tube, a quarter of an inch in diameter, was introduced into the left jugular vein. The man who blew filled his chest twice, and continued to blow for a minute. He then stopped, on account of the symptoms of uneasiness which the

[1] Op. cit., pp. 22-23.

animal exhibited. In a few seconds, the horse staggered and fell; and in three minutes, from the commencement of the introduction of air, he was quite dead. During the period he survived after falling, he made great and violent efforts to respire, and during that time was strongly convulsed, the convulsions commencing soon after he fell. It was computed that he lost about eight quarts of blood, which is the quantity usually taken at an ordinary venesection.

Sectio. Air was found in every visible vein over the whole body. The chest was opened an hour and a half after death, when the lungs were seen to be collapsed, and in no degree emphysematous. All the cavities of the heart, but particularly the right auricle, were distended, and had a tense elastic feel. The right side was first examined. The auricle was enormously distended; and, upon a small opening being made with the scalpel, frothy blood, with which the cavity seemed to be entirely filled, instantly rushed out. The greater part of the ventricle was filled with fluid and coagulated blood, but there was also some in a frothed state. The left auricle contained frothy blood, and some coagulated masses. In the left ventricle, the quantity of air was just sufficient to make its existence appreciable; but there was a great quantity of blood, both fluid and coagulated, in this cavity.[1]

Experiment. *Introduction of Air into the jugular vein of a rabbit: convulsions: death in two minutes. Right side of heart distended with air unmixed with blood, as well as frothy blood: fluid blood in left side. Irritability of heart nearly lost. Bubbles of air in vena cava and larger abdominal veins.*

A tube, almost equal in diameter to a crow-quill, was inserted into the right jugular vein of a rabbit. In the course of two minutes, I introduced three or four full expirations. During this time the animal lay quite tranquil, and did not struggle in the least, but the breathing was difficult, and the heart's action feeble and fluttering. Just as I desisted from blowing, I observed some slight convulsive movements of the limbs, and in a few seconds more they recurred. Respiration now ceased, and there were no more convulsions. The thorax was immediately laid open. Great venous congestion everywhere presented itself. The heart was enormously distended. Upon puncturing the right auricle and ventricle, air unmixed with blood issued forth; and in the auricle there was a good deal of frothy blood. The froth was not nearly of so light a consistence as in the former experiment, owing, probably, to the blood and air not having had sufficient time to be thoroughly agitated together. The left side of the heart contained fluid blood. It is worthy of remark, that the irritability of the heart was almost extinct. Even though rapidly relieved of its load of blood and air, the contractions, excited by pricking it with the knife, were unusually trifling. In the horse, again, the contractions of the heart continued very forcible, long after it had been cut out of the body. The lungs were next examined, and were found to be quite healthy. They were collapsed, and in no degree emphysematous. In the vena cava, and some of the larger abdominal veins, bubbles of air were observed; but in most of the other vessels examined, none could be detected.[1]

[1] Op. cit. pp. 10-11.

Experiment. *Injection of Air into mesenteric vein of a rabbit. Air found in the veins of the liver: none in any other part of the body.*

I threw a quantity of air into one of the mesenteric veins of a rabbit, and in eight minutes afterwards killed the animal. The liver was in a state of almost complete anæmia; and, upon slicing it, minute bubbles of air appeared at every point on the incised surfaces. There was no air apparent in the heart, nor in any part of the body, except the liver.

I will now detail the case of a man whom I had the opportunity of watching for some hours after the entrance of air into a vein of the neck, and whose body I inspected after death. The leading facts are already well known to the profession; the case having been noticed, with more or less particularity, in all the medical journals, at the time of its occurrence. The various phenomena which presented themselves in this case were watched with intense interest; for if the accident had been an intentional experiment, it could not have been more suited to illustrate the physiology, pathology, and treatment of this class of cases.

Case. *Entrance of Air by a rigid Vein in the Neck, opened accidentally by a seton-needle. Asphyxia, and convulsions: death in seven hours. Congestion of the right side of the heart found on dissection.* [This case was described in the daily newspapers, in the *Lancet*, and other journals, at the time of its occurrence. References to these imperfect reports have been made by scientific writers.]

William Richards, aged 39, labouring under chronic laryngitis, applied to Dr. R. Willis, of Barnes, for advice, in the spring of 1848. He was first treated by leeches, then by blisters; and lastly it was resolved to introduce a seton, as Dr. Willis had found this, in other cases, a completely successful method. On the 25th March, the deceased came to Dr. Willis about 9 A.M. Dr. Willis set him in a chair, instructing him as to the proper attitude. He threw back his head, which, by keeping the parts tense, he being much emaciated, was inconvenient. Dr. Willis having desired him not to do this, pinched up the skin with the finger and thumb of the left-hand, and immediately thrust in a seton-needle, about the size of a common bleeding-lancet, armed with a strip of lint. It entered horizontally, about two inches and a half above the breast-bone, and not at all near any important blood-vessel. What followed was thus related by Dr. Willis to the coroner. "At the instant of its entrance, I heard a slight momentary hissing sound. At first I thought I had opened into a subcutaneous abscess communicating with the windpipe; but, almost at the same moment, I looked in the poor man's face, and saw that another, and far more serious event had occurred; that the rushing of the air was not from the windpipe, but into some small vein which had been implicated in the operation. The man was deadly pale; his features were set; he fainted; and subsequently became rigid and convulsed. I kept my fingers on the openings, to arrest the farther entrance of air during inspiration: I caught the man, and laid him down on the floor." It was in these circumstances that Dr. Willis sent for me; and in half an hour I was with him. The muscles were then rigid, and momentarily convulsed. The man seemed as if in an agony for breath: the

[1] Op. cit. pp. 11-12.

muscles of respiration were in a state of frightfully violent, and somewhat spasmodic and intermitting action. The sound of air and fluid being, as it were, churned in the heart, was heard with, and also without the stethoscope. Dr. Willis and I entirely agreed as to the nature of the accident; and we were also of opinion that it was our first duty to relieve the oppressed lungs, and over-distended heart, by bloodletting, and then to use such stimuli, internally and externally, as the progress of the case might warrant or suggest. We hoped that in this way the rapidly increasing congestion of the lungs, and therefore impending asphyxia, might be averted. We judged it dangerous to open the jugular vein, because we feared that, during the deep and violent inspirations, more air might be drawn down into the heart, as, from the rigid state of the fascia of the neck, it was evident that the tube might be kept gaping and patulous. If we had had any one to aid us, we would have freely opened the jugular vein, and, by mouth-suction at the wound, relieved the right side of the heart. In the circumstances, it was determined to open a vein at the elbow: and, in three or four minutes after my arrival, I performed this operation. Before the bleeding, he was almost pulseless; but after it the pulse immediately revived, and the ammonia and brandy, which had previously produced no benefit, caused, when now repeated, a manifest improvement in the pulse and respiration; and the action of the diaphragm became less convulsive. Death, which before the bleeding had seemed to be momentarily impending, was certainly delayed, for a time, by the measures which we adopted. We now sent to London for Mr. Syme, who was with us about noon. He found us applying, at intervals, warmth to the feet, dashing cold water on the face, and giving stimulants. The patient was in a more hopeful state, just as Mr. Syme entered, than he had yet been. Mr. Syme entirely concurred in the view we had taken of the nature of the case, and of its treatment. Shortly after Mr. Syme's arrival, I was obliged to leave the patient for an hour and a half. I returned at 2 P.M.; and, to my great surprise, found that the man was not only alive, but apparently better. The pulse was good, and the breathing was quieter, and more regular; but the locked-jaw, and opisthotonic arch of the back, proclaimed that the case was still desperate. Violent convulsions came on at three o'clock; the features were distorted, and the bleeding tongue was pushed up against the teeth, so as partly to protrude through their crevices. The last time he swallowed, was about a quarter past two o'clock. After several violent fits of convulsions, he expired a few minutes before 4 P.M., the body having previously become colder and colder, and the surface more and more livid. He died in a state of asphyxia. Up to a very short time before death, the churning sound was distinctly heard through the stethoscope; but it was much feebler, and more confused than in the early part of the day.

In reply to a question by the coroner, Mr. Syme said that a post-mortem examination was "not necessary to explain the cause of death; but that, for the sake of science, it was important that there should be one made." Immediately after the inquest, at the request of Dr. Willis, in his presence, and with the concurrence of the relatives, I made an anatomical inspection of the body.

General Appearance. The body was much emaciated. Some very slight indications of incipient putrefaction were present.

Neck. The great vessels of the neck were uninjured. The skin was carefully dissected away from the parts through which the needle had passed, when it was found that a vein, running almost exactly in the mesial line upwards and downwards, was the vessel which had been injured.[1] Its coats were thickened and rigid. Its calibre was such as readily to admit a bougie, of the size of a crow-quill. It had been transfixed by the seton-needle, which had made a gap in the anterior wall, leaving posteriorly about two-thirds of the rigid tube uninjured.

The diseased vein which had been wounded, came down nearly in a straight line from the under surface of the chin; about the lower third of the neck, it began to diverge to the right, till it joined the external jugular immediately above where that vessel dipped to join the internal jugular vein, under the sternal origin of the sterno-cleido-mastoid muscle.

Chest. The lungs were considerably gorged, and entirely filled the cavity of the thorax. There were strong pleural adhesions posteriorly, but none anteriorly, on both sides. Before proceeding with the examination, double ligatures were applied to the venæ cavæ. The heart occupied a large space. The right auricle had an elastic feel, and before it was opened it was evident that it was distended with air: the left auricle was flaccid. On pushing a scalpel into the right auricle, a small quantity of blood bubbled out, with at first a slight hissing noise. On fully opening up this chamber of the heart, the contents were found to be partially congealed blood, intimately mixed with bubbles of air. They were very numerous, notwithstanding the air which had escaped by the opening made by the scalpel. Most of these bubbles of air were about the size of a millet-seed; but a few of them were as large as small shot. There was also, in the right auricle, one small, pale, consistent, fibrinous clot. The pulmonary artery was likewise filled with blood and air intimately commingled: it did not contain any clots. Saving the presence of a minute quantity of fluid blood, the ventricles were empty. If permitted, I would have examined the veins over the whole body, and also the brain and liver. Unfortunately, the length of time occupied in exploring what has been described, rendered the relatives impatient, and made it necessary to close the inspection.

I am not aware of any recorded case of death from the entrance of air into a vein, so full of instruction as that now detailed; and probably this is because in no other instance was the opportunity for observation so long, and so ample. If an experiment had been deliberately planned, and skilfully performed, it could not have shed more light upon the subject. The characteristic and immediate effects were strikingly exhibited: they subsided; and then the secondary or asphyxial phenomena became equally well manifested. The first shock which the vital functions sustained, was caused by the rapid distension of the right auricle and its inability to contract upon its elastic contents. Had the dis-

[1] This vessel was the anterior jugular vein. In place of a single vein, there are generally two. Professor Schuh of Vienna, in his paper from which I am about to quote, incidentally states, that upon one occasion, in performing the operation of tracheotomy, he opened the middle jugular vein, and that some air was drawn into the circulation. The effects produced are not stated.

tension been a little more complete and rapid, instant death would have been the result. As it was, the heart partially regained its power; and although the condition of the heart, and frothy blood in the auricle, pulmonary artery, and its branches, produced an obstruction to the passage of the blood through the lungs, adequate ultimately to induce fatal asphyxia, the obstruction was yet sufficiently moderate to enable us to analyse all the phenomena as they presented themselves, and to point out to us, that had this obstruction been still more moderate, the difficulty might have been surmounted, and recovery from the accident might have occurred.

The history of this case clearly shows, that in such accidents, after the first danger is over, the patient may perish from asphyxia, induced by a gradually augmenting pulmonary obstruction. What I saw in this case, along with a careful reperusal of Mr. Erichsen's experiments (*Edin. Med. and Surg. Journ.* Jan. 1844,) has fully satisfied me that, in a large number of the deaths which occur from the entrance of air into the veins, asphyxia is the principal and immediate cause of death. It may be stated as a conclusion from this case, from numerous other cases, and also from experiments on animals, that if the first shock of the accident be got over, *the degree of subsequent immediate danger is in proportion to the amount of obstruction to the passage of the blood through the lungs.*

More remote subsequent danger may arise from inflammation of the lungs. Some of the animals which I experimented upon, recovered from the immediate effects of the introduction of air, but ultimately died from pneumonia.

On the other hand, when death takes place after the lapse of a week or ten days, the fatal result may be wholly independent of the entrance of air, and may depend upon purulent matter entering the circulation at the seat of the operation. In a case recorded by Professor Schuh, of Vienna, in a paper on Steatomatous Tumours, published in the *Deutsche Klinik* for 6th April, 1850, this actually happened. During the removal of a steatomatous tumour from the neck, a sound was heard resembling that known to be caused by the entrance of air into a vein. A finger was immediately placed upon the spot at which the air was supposed to have entered, when the sound ceased. No remarkable symptoms were witnessed in the patient. After a pause, the operation was resumed, when, a second time, air was heard to enter, and was in a similar manner a second time as promptly arrested. The effects were slight, but characteristic. I subjoin the history of this interesting case, as it has not yet appeared in any of the English or French medical journals.

Case. *Entrance of Air into the Subclavian Vein, during an Operation: Survival for ten days: Purulent Deposits.*

A tanner, aged 50 years, had been three times operated on for a swelling in the region of the right pectoralis major muscle. The last operation had been performed three months ago, but the disease had returned. He had a tumour of the size of two fists: it was painless, had a very uneven surface, and was firmly connected with the pectoral muscle; it extended very nearly to the clavicle, and could not be moved

by drawing aside and raising the arm. The skin over it presented cicatrices, (the result of former operations), extending as far as the axilla, and inseparably united with the substance of the tumour. The consistence was generally hard; but two of the most projecting lumps were soft, very elastic, and apparently fluctuating: the skin over them was healthy, and moveable. An examination from the axilla shewed an unevenness and hardness on the posterior surface of the pectoral muscle. As the patient persisted in his resolution to have the tumour removed, Dr. S. loosened the mass, and removed the greater part of the pectoral muscle, which was inseparably united with it. While Dr. S. was endeavouring to divide the last remaining attachments of the growth, at the lower edge of the clavicle, and for that purpose was pushing it upwards, and somewhat dragging on it, he suddenly heard *the sound of the entrance of air into an opening in the subclavian vein, without hæmorrhage.* He immediately placed his finger on the spot where he had last cut, and watched the patient. He was already recovered from the insensibility produced by chloroform, and shewed no signs of the entrance of air. There was not even any change in his countenance. There was, indeed, some inclination to vomit; which, however, as well as the slow pulse, Dr. S. ascribed to the chloroform. The operation was concluded, and an assistant was directed to keep up pressure with his finger. Dr. S. endeavoured to apply a ligature; but, as soon as the finger was removed, the blood gushed out in such quantity as to render it impossible to see the wound. A small compress was then laid above the clavicle, another pushed under it, and the two were held together by Hesselbach's compressorium. In two hours, being summoned on account of hæmorrhage, Dr. S. removed the compressorium, and was about to introduce his finger under the clavicle. Before he could do this, air was again distinctly heard to enter the vein. He felt the pulse immediately, and found it *much accelerated, very weak, and extremely irregular; but this continued only a few seconds. At the same time, the patient felt slight nausea, and inclination to vomit:* but these symptoms passed away with the acceleration of the pulse. Hæmorrhage was restrained by the application of Dupuytren's intestine forceps, which were left on for forty-eight hours.

On the first days after the operation, the patient felt well, with the exception of unquenchable thirst; the pulse was normal. *Fourth day.* Slight sopor; delirium at night; pain in the chest; and difficulty of breathing. *Fifth day.* The wound was dirty, and moderately inflamed; heat of skin normal; the right arm was much warmer; and the pulse, on this side, not accelerated, but stronger. The muscles of the right forearm exhibited involuntary contractions. There was great thirst, and the head was warm: the urine was normal. *Sixth day.* Wound cleaner; pulse normal; thirst great; tongue covered with a white fur. The patient had a feeling of exhaustion, and of great heat, although the skin was only of normal warmth. Right arm hot; muscular contractions fewer. Pain in the left axilla; head warmer; sleep interrupted by dreams; urine very thick. *Seventh day.* Night restless, from severe pain in right knee, increased by the least motion, or pressure: wound clean; head and right arm warmer, the other parts of normal warmth: pulse normal; thirst great; urine thicker; frequent complaints of cold.

Eighth day. Delirium in the night. The left knee very tender, and swollen about the patella; the right knee had also begun to be painful, without exhibiting any swelling. Wound clean; eye coloured yellow; pulse slightly accelerated; heat of skin, normal, except in head and right arm, in which last frequent subsultus was observed. The patient suddenly lost his power of speech, and had a grinding motion of the lower jaw; the movements of the sound hand were unsteady, and there was a red painful swelling on the left fore-arm. There could be no doubt now of the presence of purulent deposits. Speech returned in the afternoon. The patient was very loquacious, and laughed at his own figure, during his delirium. *Ninth day.* Pulse somewhat accelerated; heat of skin increased over whole body. The patient was bathed in sweat; did not speak; and had a sunken countenance, with yellowness of the face. There was œdema at the inner side of the right upper arm; respiration accelerated; urine suppressed. No pain was produced by pressure in the region of the wounded vein. *Tenth day.* The patient died.

Post-mortem Appearances. The subclavian vein was plugged with a clot of blood, commencing at the wound, and extending two and a half inches towards the axilla. The coagulum had already undergone purulent softening in the centre. The length of the wound in the vein, which was plugged by coagulum, was two or three lines. The fibrinous coagula in the heart were of a yellow colour. At the apex of one of the lungs, there was a metastatic deposit of the size of a nut. The left knee-joint contained pus, which was also found in the cellular tissue of the left fore-arm. There were two ounces of clear serum in the lateral ventricles of the brain. (*Deutsche Klinik*, 6 April, 1850.)

Conclusions. From the preceding cases, experiments, and arguments, some important pathological facts and practical lessons clearly flow. The subject becomes simple both in theory and practice. In the three following paragraphs, an attempt is made to give the essence of the previous pages.

1. The entrance of air into the veins does not necessarily give rise to exactly the same symptoms; the intensity of the effects depending upon the degree in which the action of the right side of the heart is arrested or impeded by its over-distension, and upon the degree of asphyxia induced by the impediment to the passage of the blood through the lungs.
2. The indications of treatment are threefold; *first*, to relieve the distended right auricle: *secondly*, to treat the impending or actually present asphyxia; and *lastly*, to prolong life by every possible means, in the hope that the air may be all absorbed, and the passage of the blood through the small vessels of the lungs again be made easy.
3. In the most rapid class of cases, in which death is suddenly threatened from paralysis of the heart from over-distension, we must first strive to relieve the organ from that condition; when the phenomena are chiefly those of asphyxia from more gradually increasing obstruction in the lungs, the various means for treating asphyxia must be resorted to, and among these, in many cases, I believe the alternate use of the hot and cold douches will be found to be very valuable, especially if com-

bined with stimulants judiciously varied and skilfully administered externally and internally. In many cases, repose, dashing cold water in the face, keeping the surface warm, and TIME may be the only means which ought to be used. The case furnished to me by Sir B. C. Brodie clearly establishes this latter position.

Being now disembarrassed of much matter, which might (had this section not been prefixed) have inconveniently obtruded itself upon our notice, we are prepared to enter upon the discussion of the topics more immediately referred to in the title of this paper.

II. STATEMENT OF FACTS PROVING THAT THE ENTRANCE OF AIR BY THE OPEN MOUTHS OF THE UTERINE VEINS MAY CAUSE DANGEROUS SYMPTOMS, AND EVEN DEATH. HISTORY AND CRITICAL EXAMINATION OF SOME OF THE ALLEGED CASES.

Legallois, in 1829, when experimenting upon animals, with a view to elucidate the effects of loss of blood, and abstinence, during gestation, observed, in three different cases, that air penetrated into the vena cava inferior and uterine veins; and that this was followed by instantaneous death. He was naturally much struck with the coincidence; and properly connecting the two circumstances as cause and effect, he has asked, in the memoir which contains the experiments referred to, whether, in some of those sudden and unexpected deaths which have occurred after delivery, and in which no explanatory lesions have been found on dissection, the entrance of air into the veins has not been the cause of death?[1] Ollivier has also suggested a similar explanation of certain cases of sudden death after parturition.[2] In my Graduation Thesis, published at Edinburgh in 1837, in noticing these opinions of Legallois and Ollivier, I made the following remarks: "There are various circumstances which render it possible, that in some instances in which women die unexpectedly after parturition, when all seems to be going on well, death is owing to air entering the circulation by means of the open mouths of the veins communicating with the uterine sinuses. These orifices, immediately after the separation of the decidua, are very large. They have been made the subject of investigation by many modern as well as old anatomists and obstetricians; and, upon the whole, the various descriptions correspond. Burton (writing in 1751) says, that the uterine sinuses in the ninth month of gravidation are so large as to admit the end of the biggest finger; and their orifices that open into the cavity of the womb will at the same time admit the end of the little finger. (*New System of Midwifery*, p. 19, Ed. 1751.) Now, the uterus not unfrequently contracts and expands alternately with considerable energy after the expulsion of the fœtus; and it is quite reasonable to suppose, that air may sometimes be sucked into the gaping mouths of the uterine vessels, in sufficient quantity to prove fatal to a woman exhausted with the fatigues of labour."[3]

Thirteen years have elapsed since the Thesis now quoted from was published: but, though during that period numerous systematic trea-

[1] LEGALLOIS. Ann. Hebdom. de Méd. t. iii, p. 183. Paris: 1829.
[2] OLLIVIER. Dictionaire de Méd. Art. *Air*. 2nd Ed. Paris.
[3] Op. cit. p. 18.

tises on Obstetrics have appeared, I am not aware that in any one of them even a single line has been devoted to this subject. Being convinced that, notwithstanding this remarkable neglect, the subject is one of great practical importance, as well as of deep scientific interest, I again bring it before the notice of the profession, trusting that the meagreness of the information to be communicated may be largely supplemented by others, of ampler experience, to whom the following considerations are respectfully addressed.

Many authors refer to this sucking in of air by the uterus, without however in any way connecting it with the immediate subject of this paper; but it may be sufficient to give a single quotation from a recent work. The following passage is from Dr. Charles Meigs' *Letters to his Class, on Females and their Diseases.* "I have," he says, "often been present at the discharge of large quantities of gas from the genitalia. A woman shall be seized with her first labour-pains, and, bearing down with great violence, thrust not the child only, but the placenta also forth upon the bed; and in bearing down with the violent force of the labour-tenesmus, she pushes the very womb itself to the bottom of the pelvis, shortening the vagina in so doing, wrinkling and crushing it down to the os magnum. As soon as the tenesmus is over, the resiliency or elasticity of the tissues recovering its power, the womb rises again to a certain height within the excavation of the pelvis; but, as it is a cul-de-sac that rises, it is natural for air to follow it, and the vagina and the womb itself may thus contain air that has been drawn up within them, upon the same principle as that which makes it follow the movement of a piston in a cylinder. Then comes a new pain—an after-pain; or else I may apply my hand to the hypogastrium, and make sure of a good contraction of the womb. If I compress the womb with my hand, and particularly if I push it downwards in the pelvis, I am very apt to cause a quantity of air to rush out at the ostium vaginæ, with considerable noise. This I have heard a great many times. So, in making the examination *per vaginam*, when the uterus is very low down, or when, in making use of the speculum, I push the os tincæ far away from the os magnum, air enters the passage, and follows the retreating womb. If it be left there, and the woman be seized with a fit of coughing, or if she move quickly, or change her position, the air is pressed out with the sound of the *pet-vaginal.* There is no other way to account for it that is reasonable. So, also, a woman has a heavy womb, with a large loose vagina; she lies on the couch or bed; and the uterus retreats, as La Motte says, drawing air after it; but she rises, or coughs, or turns, and the air is expelled" (p. 289).

If it be admitted, that air is drawn into the uterus in the way described, what ground is there for supposing that it may thence pass by the uterine veins into the vena cava, and so on to the right auricle of the heart? The uterine veins, it must be remembered, are large canals, some of them with open mouths, sufficient to admit the little finger. Nature generally closes them firmly by a coagulum; but an accession of hæmorrhage may dislodge this; or the coagulum may contract and fall out, and thus leave the orifices of the veins patent. This accident may occur hours, days, or, in some exceptional cases, even weeks after delivery.

Of the freedom of the communication between the cavity of the womb after delivery, and the vena cava inferior, any one may be informed by the most cursory examination of the parts on the dead body of a puerperal woman. Dance says, in his Essay on Phlebitis; "If even a thick injection be thrown into the vena cava inferior below the emulgent veins, it is immediately poured forth in abundance into the cavity of the womb, and overflows from the vulva; thus proving, that after delivery, the large uterine veins are open in the uterine cavity, and communicate freely with the large abdominal veins."[1]

It might, therefore, be anticipated, *a priori*, that air might get into the vena cava, and so onward to the heart of a woman recently delivered, by being sucked into the uterus by the sudden dilatation of that organ, and by thence passing into the orifices of the uterine veins. When the uterus is relaxed, these large openings are gaping, the structure of the parts effectually preventing apposition of their parietes. Unless closed by a plug of coagulum, they are (as I have satisfied myself by examination) perfectly patent. If any obstacle exist,—such as a large clot, or contraction of the circular fibres of the cervix, or of the sphincter of the os uteri, after the air has rushed into the relaxed uterus,—it must, of necessity, be propelled into these openings, should the body of the uterus contract without being able to force the air through the os. I have repeatedly seen the womb, after delivery, become inflated with air; and when the organ has contracted, I have heard the air hissing through the vulva. I have, therefore, not only no difficulty in believing, but am constrained to admit, that, should any impediment be offered, in such cases, to the free exit of the air by the os uteri, it must be forced into the uterine veins, were their mouths not protected by coagula; and thence it would rapidly pass, by the current of the circulation, up the vena cava into the right auricle.

But, that cases of this kind *may* occur, is not all. They have occurred; though, from attention not having been sufficiently drawn to the possibility of such accidents, fewer may have been recognized than have actually occurred. At the same time, it seems probable that the accident is a very rare one.

Dr. Collins of Dublin, Dr. Murphy of London, and others, long in extensive practice, inform me that they have never seen such an occurrence as the death of a woman from the entrance of air into the uterine veins. Dr. Lever, however, who views the matter in a different light, has addressed to me the following letter.

"12, *Wellington Street, London Bridge, March* 16, 1850.

"My dear Sir,—When in Ireland, my library was cleaned; and, in consequence, my papers became so disarranged that I am unable to lay my hand on the rough notes of the cases about which we were conversing, and have therefore to trust entirely to memory. All the women were multiparæ; the labours had not been over-tedious; the placentæ were thrown off without assistance; and an inert state of uterus, with hæmorrhage, ensued. This viscus seemed like a softened India-rubber bottle: and the period at which the air was *supposed* to have entered it, was when the hand was withdrawn from the abdomen, after employing

[1] Dance. De la Phlebite. Arch. Gén. de Méd., t. xviii, p. 481. Paris: 1828.

forcible compression. There was an accompanying noise, very similar to that heard when a caoutchouc enema bottle is squeezed, and then allowed to fill with air; in fine, I may describe it as a rushing sound. All three patients died speedily; the quantity of blood lost not being, in my opinion, sufficient to account for death. Two were examined; one in cold weather, the other in the very height of summer. The latter presented signs of commencing putrefaction. In neither was there any large quantity of blood in the uterus; but in the sinuses, uterine veins, spermatic veins, and left renal vein, there was indubitable proof of air. This, in the former case, emitted no offensive smell when liberated. All these women had been exposed to marsh malaria; and all had enlarged spleen. I am grieved to furnish you with so meagre a report: but I cannot do more from memory.

"Believe me, dear Sir, yours very truly, JOHN C. W. LEVER."

I have now to mention cases, which have been minutely described.

CASE. *Sudden Death following injection into the vagina of chlorurretted water in a case of uterine hæmorrhage. On dissection, discovery of the appearances which are characteristic of death from sudden Entrance of Air into the Veins.* The following case is detailed by Dr. J. Bessems, of Antwerp; and his explanation of the cause of death is similar to that which I adopt.

On the 14th October, 1841, a woman, aged 35, suffering from uterine hæmorrhage, was admitted into the hospital of St. Elizabeth, under the care of Dr. Bessems. She was the mother of three children. When at the fifth month of her fourth pregnancy, she had some flooding, in consequence of strong mental excitement; medical assistance was called in, but abortion took place on the 10th of October, between three or four days before her admission into the hospital. Being alone, she pulled the cord, and broke it. A midwife afterwards arrived, who introduced the hand to complete the delivery; but, being baffled in her attempts, she withdrew. The patient remained in this state, without hæmorrhage, till the 14th; when, in consequence of a great loss of blood, she was taken to the hospital. On admission, her general condition was tolerably satisfactory: the face was slightly pallid; and the pulse, though of adequate strength, was a little too rapid. On examining the abdomen, no marked symptom presented itself, except the large bulk of the uterus, which was very appreciable in the hypogastrium. The cervix, which was very soft, was still open; two fingers were easily passed up to the placenta, but, although the attempt was assisted by the contractions of the uterus, it was not found possible to drag out the mass, which had perhaps formed adhesions with the internal surface of the organ. By means of Levret's forceps, some very small portions of the placenta were got away. The hæmorrhage had at this time almost ceased. Dreading to irritate the womb too much by prolonged manipulations, Dr. Bessems injected into its cavity slightly tepid water, and prescribed other measures, which are merely alluded to as being those ordinarily employed in such cases. On the 15th, the following day, the state of the patient seemed to be better. She had lost no more blood; and the pulse was firm and tranquil. The gentleman in attendance (M. Stevens) having tried in vain to ex-

tract the remainder of the placenta, prescribed chloruretted injections, which were administered in the morning, at noon, and in the evening, by the surgeon in attendance, by means of a gum-elastic catheter placed within the womb, and adapted at its other end to the pipe of a syringe filled with the fluid to be thrown in, all bubbles of air being carefully excluded. On the 16th, little change took place, and the treatment was continued. In the night between the 16th and 17th, the patient had (about 4 A.M.) considerable hæmorrhage; at 8 A.M., the hour of visit, it had ceased; but the countenance was perceptibly paler, and more yellowish, and the pulse was smaller, and more rapid. By digital examination, the cervix was found dilated as formerly, and the placenta was somewhat engaged in it. Some fragments were removed, and the chloruretted injection was repeated, with the same precautions as had been adopted on the two previous days. In an instant, the patient, who had been lying in bed, sprang into the sitting position, with her arms extended, crying out that she was being suffocated. The head was thrown backwards; the face became livid; the eyes were convulsively turned upwards; and the expression became fixed. From some convulsive movements of the throat, it was for a moment believed that she was in an hysterical condition. But respiration became jerking, and slower and slower; the body fell backwards; the pulse fled; and, in spite of aspersion with cold water, and the putting in force of the usual means of restoring from syncope, she was dead in three minutes from the time when the injection had been thrown into the uterus.

Dissection, twenty-eight hours after death. The body was stiff, and presented no trace of putrefaction. Nothing morbid was found upon examining the peritonæum, and the abdominal viscera. The womb was as large as a good sized fist; and in its texture there was no trace of inflammation or suppuration. Its cavity still contained a portion of placenta of the size of a hen's egg, partly detached, and partly strongly adherent. The inferior vena cava was distended, and contained in its abdominal portion several bubbles of gas of considerable size, which could be distinctly seen through the parietes of the vessel. The pleura, lungs, and pericardium, were healthy. The heart appeared large; but, on examining it more carefully, it was seen that the increased size principally depended upon the *distension of the right cavities, which exhibited an elasticity of a peculiar character. The vessels leading to and from the heart having been tied, that organ was opened under water, when there escaped a large quantity of gas mixed with blood.* The encephalon presented no morbid appearances.

Dr. Bessems, from the state of the right side of the heart and of the great vessels leading thereto, does not hesitate to ascribe the sudden death to the entrance of air into the circulation, by the uterine veins. It may be asked, If no injection had been practised, and no possibility had existed of air entering the circulation in the way conjectured, might not an anæmic woman have died as suddenly, and in precisely the same circumstances, from syncope? The anæmic condition of the woman was, we cannot doubt, a predisposing or accessory cause of the fatal issue, inasmuch as anæmia is of itself sufficient to induce irregular action of the heart, and adequate to render disturbing agencies, which

would be harmless in a normal condition of the blood, suddenly fatal. When, along with the anæmia induced by loss of blood after parturition, there is a diseased heart—softening of the tissue, or some structural change in the valves—it is easy to conceive slight causes, mental emotions for instance, which have not been disclosed by words or outward acts, all at once bringing the action of the heart to a stand, and perplexing the attendants by the abrupt termination of apparent convalescence in sudden death. Numerous instances of sudden death after parturition, and when all seems to be going on well, certainly depend upon the facility with which trifling causes may disturb the circulation in women with diseased heart, and suffering from recent loss of blood. In the case of Dr. Bessems, a similar explanation might have been sustained, had the narrative been less circumstantial, and had there been no record of the appearances found on dissection; but, with the facts before us, we must believe that, however much other causes may have been accessory or predisposing, the injection of air into the uterine veins was the immediate cause of death. This is established by the distended condition of the right auricle, and by the large quantity of air found in the vena cava inferior.

M. Lionet, of Corbeil, has published a case, which claims attention in this place.

Case. *Sudden Death after Natural Delivery, without known cause: Air in the Veins.* A lady, aged 27, of ordinary height, stout, fresh, and well-looking, but very excitable and subject to attacks of hysteria, in the eighth month of her pregnancy, while looking at her husband who was getting into a carriage, saw the horse fall down; she uttered a cry of terror, became very pale, and lost, at the instant, the power of speech. The midwife first made her use a pediluvium, then an entire bath. The aphonia persisting, M. Lionet was summoned three or four hours after the accident. The power of motion and the intellect were unimpaired; the patient made herself understood by signs or by writing. A copious bleeding, and several cups of infusion, having failed in restoring the voice, at the end of five or six hours, a large sinapism was applied to the cervico-dorsal region. The pain was so acute, as to cause convulsive movements; but speech was this time restored. The pregnancy continued its natural course, and the movements of the fœtus were felt until the appearance of labour-pains, twenty-three days after. The midwife only observed that the patient was paler and more feeble than usual: she had to be carried to bed. The os being very slightly dilated, the midwife left the patient for some time; on returning in about half-an-hour, she found the head in the vulva, and the child, although well-formed, was born dead. The placenta soon followed; the uterus contracted properly, but the patient's strength did not return; she remained extremely pale, and the midwife, having exhausted her resources, sent for M. Lionet.

He did not see the patient till three hours after her delivery; she was extremely pale, was making efforts to vomit every minute, and breathed with difficulty. The circumstances attendant on the delivery were related to him; he was assured that there had been no hæmorrhage, and, on examining the linens, they did not seem to have imbibed an unusual quantity of blood. The uterus formed an ovoid mass, which

raised the abdominal walls; a little serous exudation escaped from the vulva. On introducing the hand into the cavity of the uterus, M. Lionet found a few clots; and, fearing that a rupture had occurred, he used a cold injection. He removed the pillows, so as to place the patient in a horizontal position; and he compressed the aorta, not only with the view of arresting the hæmorrhage, supposing that a rupture had taken place, but also to favour the flow of blood to the head, and to the heart, the pulsation of which was irregular. The hands were plunged into a warm mustard bath, and cordial drinks and an ether draught were administered: ammonia and hot friction were applied externally. The patient constantly complained of being suffocated, calling for air, or she should die. In an hour, M. Lionet sent for Dr. Petit, sen., who again examined the uterus. The patient expired under their hands, after two hours of constant attendance, five hours after being delivered, without having experienced any relief, beyond the grateful impression of the currents of air which were directed in her face.

The child was of average strength, and well formed; its limbs were contracted and rigid, as if they had just been convulsed; and this contraction lasted for eight or ten hours after its expulsion.

The Post-mortem Examination was made about thirty hours after death, at a temperature of 12-14 R., by MM. Petit, sen. and jun., Surbled, and myself. The body was of a yellowish white, like wax. The stomach and intestines were distended by a large quantity of gas; the mucous membrane was pale, and perfectly healthy. The uterus was slightly ecchymosed at the sides; it presented no trace of laceration, and contained no clots; when water was introduced, it did not escape by any aperture, although the organ was strongly compressed. The surface where the placenta had been attached had a velvety appearance, and exhibited a large number of venous sinuses, without any appearance of rupture.

The vena cava seemed to be enormous, and of a slaty appearance; but as it had been wounded by the scalpel in removing the uterus, the nature of its contents could not be determined. In the supposition that it might contain air introduced from the uterine sinuses, the investigations were directed to ascertain this fact. Having found nothing of importance in the chest, the heart was carefully examined: some bubbles of air mixed with a small quantity of blood were found in the ventricles, especially in the right. On lifting the calvarium, the arachnoid appeared raised by small transparent patches, which were recognised as bubbles of air; they were easily removed by pressure. The membranes and vessels were but slightly covered; and, in several of the veins ramifying among the cerebral convolutions, small columns of air separated by columns of red blood were seen: on pushing these with the finger, they could be united, so as to give to the veins the appearance of fragments of vermicelli, several centimètres in length. The same appearance was observed in the veins at the base of the brain. The veins in the limbs were not examined. The following then is a summary of the appearances observed:—No appreciable lesions in the uterus or other viscera; air in the heart, perhaps in the vena cava, and certainly in several of the cerebral veins.

M. Lionet, after various remarks, puts this question; can it be ad-

mitted that, in the anæmic state of the patient, the uterine sinuses being empty of blood and not plugged with clots, the introduction of the hand favoured the admission of air during uterine inertia? He replies —I do not know whether this be possible: it is for physiologists to determine. (*Journal de Chirurgie*, 1845, *p.* 234.)

Case. *Rapid Death after Parturition. Death attributed to the Entrance of Air into the Uterine Veins.* Dr. Wintrich, in 1848, communicated to the Medical Society of Erlangen a case of rapid death after parturition, which he attributed to the introduction of air into the uterine veins. Death was preceded by some convulsive movements and suffocation, which symptoms followed the expulsion of the infant and the partial separation of the placenta. Dissection, we are told, satisfactorily demonstated that air had penetrated into the venous system by the uterine veins.[1] I regret that I have failed in obtaining the original record of this case, and that I am only able to give this very meagre abstract from a French journal.

Professor Simpson has communicated the following remarks, as an appendix to Dr. John Reid's *Essay on Death from the Entrance of Air into the Veins*:—

"Several years ago I saw", says Professor Simpson, "a case of death a few hours after delivery, which first gave me the idea that death may sometimes occur from the introduction of air into the uterine veins. The patient was an inmate of the Lying-in Hospital, and was delivered of twins. Dr. Ziegler was called to see her, in consequence of some difficulty connected with the birth of the second child. Post-partum hæmorrhage, with alternate contractions and relaxations of the uterus, supervened; and she seemed to rally very imperfectly from the effects of the flooding. I saw her in an hour or two afterwards. She had then a very weak and rapid, almost imperceptible pulse; an extremely anxious countenance; and here and there was an evanescent scarlatinoid rash over the surface of the body. The body was opened a few hours after death, as we were anxious to know if there was air in the veins; and we were, of course, desirous not to incur the fallacy of air arising from decomposition. The abdominal contents were exposed under water. The uterine and hypogastric veins, and lower vena cava, were full of frothy blood, and the air bubbled up. The large veins of the extremities were in the same state."

Nothing is said of the condition of the heart and lungs; the only organs in which the characteristic and certain evidence of the accident having caused death is to be found. The mere presence of air is no proof that it has caused death.

Dr. Simpson has the following remarks upon the mechanism of the introduction of air in such cases. "I think we can understand it, when we remember that the interior of the uterus after delivery, especially opposite the late seat of the placenta, is studded with venous orifices; and that, if air does once become introduced into the uterine cavity, from relaxation of the walls of the organ, it will be liable to be *forced* into these orifices, and hence into the general venous circulation, pro-

[1] Journal de Médecine et de Chir. Prat., Nov. 1848, p. 609.

vided the uterus, in again contracting, is unable to expel its contents through the os uteri."[1]

The cases and comments of Professor Simpson are chiefly valuable as an intimation from so eminent an authority that the ideas of Legallois, as to the reality of this accident, deserve credit. The cases may or may not have been, though they probably were, examples of the accident. It must be felt that the descriptions are not absolutely convincing; for the symptoms, during life, are not sufficiently detailed, and the frothy blood in the uterine veins, hypogastric veins, and vena cava inferior, can with difficulty be understood, except by supposing that, notwithstanding the short time which had elapsed since death, when the body was examined, some decomposition of the blood, and evolution of gases, had commenced. In experiments on animals, and in cases in the human subject, in which rapid death has followed the introduction of air into the veins, frothy blood has only been found in the right side of the heart and pulmonary artery: in other parts of the body, the air, if found at all, has not been intimately mixed with the blood, but has existed in distinct bubbles. This is easily understood; for it is the churning of the struggling heart, unable to propel its elastic contents along the pulmonary artery, which causes the frothing of the blood.

It would be endless to relate all the cases, which might be cited as furnishing a strong probability that air had entered the uterine veins after delivery, inducing, in some instances, transient, but alarming symptoms; in others, occasioning almost mortal effects, and in others, causing, or, along with uterine hæmorrhage, contributing to cause sudden and unexpected death. Such cases would not furnish data of sufficient accuracy to support, far less on which to found conclusions. Some of them, however, have seemed to be entitled to the consideration which they have received in this paper.

This seems to be the most convenient place to notice the *red appearance of the skin*, which is described as having occurred suddenly in some cases of the entrance of air into the veins. Dr. Warren of Boston relates two cases which occurred in his own surgical practice. The first patient recovered, after being insensible for a considerable time. While still comatose, "the leaden colour in the cheeks", says Dr. Warren, "assumed a *reddish* tinge, and the alarming character of the symptoms was evidently diminished." In the second case, during the period elapsing between the entrance of the air, and the death of the patient, says Dr. Warren, the "livid colour of the cheeks gave place to a suffusion of *vermillion red*, and no glow in the cheek of a youthful beauty ever gave one so much pleasure as that flush. But the flush soon passed off:" and the patient died.[2]

In several cases of death occurring two or three days after delivery, (some of which had been considered as malignant scarlet fever, by the medical attendant), Dr. Simpson states, that "a red or scarlatinoid eruption was seen upon the cutaneous surface of the patient." In the

[1] Reid (Dr. John). Physiological, Anatomical, and Pathological Researches, pp. 579-80. Edinburgh: 1849; also in *Edinburgh Monthly Journal*, April 1849, p. 707.

[2] Warren, Dr., in *American Cyclopædia of Practical Medicine*, as quoted by Dr. J. Y. Simpson in *Edinburgh Monthly Journal* for April 1849, p. 707.

case quoted from Dr. Simpson, at p. 946, which is the only one of the kind fully detailed, there was post-partum hæmorrhage, and "an evanescent red scarlatinoid rash over the body." Dr. Simpson asks the following question: *If the red or scarlatinoid rash, which appeared in the preceding obstetric case upon the surface of the skin, were owing to the entrance of air into the uterine veins, might this symptom be accounted for on the idea, that the introduced air directly mixed with, and oxygenated, the blood in the capillary vessels?*

The "rash" described by Dr. Simpson, and the "reddish tinge" and "suffusion of vermillion red", mentioned by Dr. Warren, may or may not refer to the same phenomenon, but it seems reasonable to infer that they do; and such is evidently the opinion of Dr. Simpson. Granting that the red appearance was in all the cases of the same nature, granting likewise that air had entered the veins, granting even that it had caused death, I am not prepared to admit that, necessarily, the red appearance was the result of the entrance of air.

My difficulty in connecting the two phenomena, as cause and effect, does not arise exclusively from *a priori* reasoning on the subject, but from what I have recently seen in three cases, in none of which, I believe, air existed in the veins; and in one of which, at least, the entrance of air was impossible. I now notice these cases, in the hope that others will, when opportunities occur, make and record their observations, with the object of elucidating this point. In the mean time, the elements on which to found a positive or exclusive opinion are wanting; and as a contribution towards the facts required, and as my reason for not answering Dr. Simpson's question in the affirmative, the following particulars of the cases referred to are here subjoined.

About twelve months ago, I was entering one of the quadrangles of St. Thomas's Hospital with Mr. Solly, when he was suddenly hurried into one of his wards where a man, (labouring under syphilitic disease of the larynx), was urgently suffering from want of breath. Tracheotomy, being imperatively called for, was quickly resolved on and performed; and the patient was, for the time, at once relieved from the distress and jeopardy of his position. This relief, however, was of short duration, for in two or three minutes after the tube had been introduced, the man gave a sudden movement, which dislodged the tube from its position in the windpipe. From the tube being plugged up with clotted blood, and from other unavoidable causes, several minutes elapsed before air could again be made to enter the lungs through it. The visage became leaden-coloured, the tongue protruded, the teeth were clenched upon it, the face was convulsed, the pulse disappeared from the extremities, and at last the whole body became pulseless and cold. The man lay for some time cold, with bloated visage, protruded tongue, and in a state of suspended animation from asphyxia. By Mr. Solly's well-directed, and persevering efforts, life was made to return. Sinapisms to the legs, the mechanical assistance of the diaphragm in expiration, etc., were the means used; and it was beautiful to observe that, when the respirations commenced, and especially as they became fuller and more numerous, warmth gradually returned to the previously ice-cold limbs, and the pulse again beat in the arteries. A more interesting and instructive spectacle could not have been witnessed. Re-

covery was complete. Now, as life was returning to this man, I witnessed exactly what Dr. Warren saw in one of his cases of air in the veins—"the livid colour of the cheeks giving place" (not steadily, but in sudden fits) "to a suffusion of vermillion red." The phenomenon in both cases was probably analogous to blushing, or was indeed mechanical blushing caused by the enlargement of the capillaries of the surface, and their sudden distension with *oxygenated* blood, in consequence of the asphyxia tending to cease, from the return of respiration and the freer passage of the blood through the lungs.

Some months ago, I had to treat a case of uterine hæmorrhage in which, immediately after delivery, an enormous quantity of blood was poured out within a few minutes, drenching the bed and flowing in streams upon the floor. There was prolonged syncope, alternating with short fits of catching and stertorous respiration, during which the countenance was for one moment ghastly pale, at another, purple, and then at intervals suffused for an instant with a deep vermillion red, which was not confined to the face, but several times appeared in transient patches upon the neck and upper part of the thorax, which happened to be exposed. The uterus was ultimately made to contract, and the patient made a tolerable recovery, and is now well and nursing her infant. I think it likely, that in this case air entered by the uterine sinuses: but, though at the moment I had the red cases of Drs. Warren and Simpson vividly in my mind, I was so impressed with what I had seen at St. Thomas's, and in another case of an entirely different character (which I then had and still have under treatment), that I adopted at the time the explanation which I now give of the rapidly-changing colours of the surface. The ghastly countenance depended on spasmodic constriction of the capillaries—the purple and vermillion replaced the pallid hue when the spasm ceased, and the capillaries suddenly became relaxed, the patches depending upon the whole exposed surface of capillary net-work not being equally and simultaneously affected with spasm, and the purple or red hue being determined by the goodness or badness of respiration at the moment. It is not improbable, as I have already admitted, that the impediment to the passage of the blood through the lungs in this case depended on the entrance of air by the uterine veins, and presence of frothy blood in the branches of the pulmonary artery; but still I think the vermillion patches cannot be explained by an affirmative answer to Dr. Simpson's question, *because a dangerous quantity of air introduced into the venous system, in place of oxygenating the blood, tends to cause a more or less complete state of asphyxia, by rendering the passage of the blood through the lungs difficult or impossible.* The tendency of the accident, even in its mildest forms, is to impede the exit of the blood from the right ventricle.

I have at present a patient, the subject of ovarian and uterine disease, who on slight emotional causes, and sometimes without any obvious cause, falls into a state of trance or unconsciousness, the duration of the seizures lasting for minutes, or sometimes for many hours. The countenance is generally placid, though, on two or three occasions, there have been spasmodic affections of the muscles of the mouth and neck, and twice violent convulsions of the extremities. However, on various occasions when I have been present, and on many more described to me, the

eyes have become suddenly fixed, the visage overspread with a deep blush, and a state of entire unconsciousness has commenced, from which no pinching could rouse her. I have watched this condition often, and have seen red patches appear suddenly on the surface, and have observed the face to become fitfully suffused with a delicate blush, superseded quickly by an extreme pallor; and these changes have generally been indicative of the fit being likely soon to terminate. Dr. Henry Bennet once saw this case with me, and witnessed such an attack as I have described. In this patient, I have seen the evanescent red on the surface so precisely similar to what I saw in the lady with uterine hæmorrhage that I adopt in both cases the same explanation, and connect it with the condition of the capillary vessels.

The idea of the red hue, in the cases of Dr. Warren and Dr. Simpson, depending upon super-oxygenation of the blood, seems at all events to be untenable; for *the effect of introducing air into the circulation in sufficient quantity to cause inconvenience, is, beyond question, to prevent the adequate aëration of the blood.* The red hue is therefore no evidence in any obstetric case, that air has entered the veins. The red appearance may possibly be often seen in cases in which air has entered the veins; but it is a phenomenon depending upon a particular state of the nervous system induced by various causes, and giving rise to a capillary relaxation, identical with the condition of the small vessels in blushing from emotional causes. It can have nothing to do with oxygenation of the blood by the air which has entered the veins.

III. DEDUCTIONS AS TO THE PREVENTION AND TREATMENT OF ACCIDENTS ARISING FROM THE ENTRANCE OF AIR BY THE UTERINE VEINS AFTER PARTURITION.

From the facts already stated, it is plain that the Treatment, both preventive and curative, is to obtain natural and permanent contraction of the uterus after delivery. As it is extremely probable that loss of blood, and the entrance of air, in many cases conjointly cause death, it is satisfactory to feel assured that the proper treatment for the one is the best also for the other, so far as the one thing primarily essential is to strive to get the uterus to contract. Plugging will also be specially proper when there is convulsive contraction and expansion of the uterus, with or without much hæmorrhage; for then there exists the greatest aptitude for the atmospheric air to enter, or be forced into the uterine veins.

If a large quantity of air have entered the circulation, unequivocal evidence of this will be found by listening to the heart, when the churning sound will be heard. If death does not almost at once close the scene, the phenomena of asphyxia will set in; their rapidity and violence depending upon the quantity of air which has entered, on its passing up to the heart in one large volume, or in divided quantities, on the presence or absence of hæmorrhage, and on the strength of the patient. The distension of the right side of the heart, and the present, or impending asphyxia, must be met by an application of the general rules given at the close of the first section of this paper, so far as they are consistent with the special circumstances of each case. In fact, there is no uniform routine practice which can be rationally recommended in this formidable class of cases. If the practitioner under-

stand the nature of the accident, he will be able to adapt his remedial measures to the emergency. The special means adopted may infinitely vary, (as in uterine hæmorrhage); but the general principles of treatment are immutable, and simple, and ought to be engraven in the mind of every accoucheur. The amount of success attending their application must depend upon the promptness, nerve, and sagacity of the practitioner.

Essex House, Putney, September 1, 1850.

ON THE GALACTAGOGUE AND EMMENAGOGUE EFFECTS OF THE LEAVES OF THE BOFAREIRA (RICINUS COMMUNIS, OR PALMA CHRISTI).

By TYLER SMITH, M.D., Licentiate of the Royal College of Physicians; one of the Physicians to Queen Adelaide's Lying-in Hospital, etc.

Dr. W. O. M'William has often mentioned to me, that he had become aware of the galactagogue properties of a plant common in the Cape de Verde islands, and expressed his intention of publishing an account of a phenomenon so novel and important. In August, just passed, Dr. M'William submitted to me a paper which he proposed to read at the Edinburgh meeting of the British Association for the Advancement of Science. Struck by the facts related in Dr. M'William's paper, and learning for the first time that the plant is no other than the *ricinus communis*, which grows as an annual plant in this country, I determined, according to Dr. M'William's wish, to ascertain whether the plant, when growing in our latitudes, preserves its remarkable properties of stimulating the mammary glands.

In Dr. M'William's interesting paper, read before the Physiological sub-section of the British Association, and subsequently published in the *Lancet* (Sept. 7th, 1850), the following description of the mode of using the Bofareira or Ricinus, the plant referred to, is given:

"In cases of childbirth, when the appearance of the milk is delayed (a circumstance of not unfrequent occurrence in those islands), a decoction is made by boiling well a handful of the *white* Bofareira in six or eight pints of spring water. The breasts are bathed with this decoction for fifteen or twenty minutes. Part of the boiled leaves are then thinly spread over the breasts, and allowed to remain until all moisture has been removed from them by evaporation, and probably, in some measure, by absorption. This operation of fomenting with the decoction and applying the leaves, is repeated at short intervals until the milk flows upon suction by the child, which it usually does in the course of a few hours.

"On occasions where milk is required to be produced in the breasts of women, who have not given birth to or suckled a child for years, the mode of treatment adopted is as follows:

"Two or three handfuls of the leaves of the Ricinus are taken and treated as before. The decoction is poured, while yet boiling, into a large vessel, over which the woman sits so as to receive the vapour

over her thighs and generative organs, cloths being carefully tucked around her so as to prevent the escape of the steam. In this position, she remains for ten or twelve minutes, or until, the decoction cooling a little, she is enabled to bathe the parts with it, which she does for fifteen or twenty minutes more. The breasts are then similarly bathed, and gently rubbed with the hands; and the leaves are afterwards applied to them in the manner already described. These several operations are repeated three times during the first day. On the second day, the woman has her breasts bathed, the leaves applied, and the rubbing repeated three or four times. On the third day, the sitting over the steam, the rubbing, and the application of the leaves to, with the fomentation of, the breasts, are again had recourse to. A child is now put to the nipple, and, in the majority of instances, it finds an abundant supply of milk.

"In the event of milk not being secreted on the third day, the same treatment is continued for another day; and if then there still be want of success, the case is abandoned, as the person is supposed not to be susceptible to the influence of the Bofareira.

"Women with well-developed breasts are most easily affected by the Bofareira. When the breasts are small and shrivelled, the plant then is said to act more upon the uterine system, bringing on the menses, if their period be distant, or causing their immoderate flow if their advent be near."

In directing the use of the Bofareira leaves, which I have procured from the Botanical Gardens at Chelsea, Kew, and the Regent's Park, I have followed as nearly as possible the description of Dr. M'William, with the exception of the application of the steam of the decoction to the generative organs. The following are the cases in which the agent has been used under my directions.

The following case was conducted by Mr. C. Stillman, one of the House Surgeons of Queen Adelaide's Lying-in Hospital.

Case I. Mrs. C———, twenty-four years of age, rather tall and thin, mother of two children, had weaned the last about six weeks, and had still a little milk, of a very thin serous character, left in the breasts. She commenced the use of the Bofareira, on the morning of Wednesday, August 21st, by bathing the left breast only, with a strong decoction of the leaves. The leaves themselves were afterwards applied to this breast. In the evening, she repeated the bathing; after which, she perceived, on squeezing the nipple, that her milk, which was at first thin and watery, had now become quite thick. After repeating the application on Thursday the 22nd, she felt throbbing pains in the breast, accompanied by sickness and pains in the back, which she described as being like after-pains, and the areola surrounding the left nipple had become much darker than the right; the glandular follicles were also larger than in the nipple which had not been under the influence of the Bofareira. The difference between the two breasts was very marked. Having at this time no more leaves, she was unable to continue the application. On the following day, a fresh supply of the leaves was obtained, and she again bathed her left breast as before. After two applications, the *catamenia* appeared, before the regular time, and the fomentations were not afterwards continued.

Case II. Mrs. H——, mother of four children, her youngest child aged one year and five months, had been weaned more than six months. During the latter months of lactation, she had little milk; the breasts were small, and the nipples contracted. Before applying the Bofareira, the breasts were carefully examined, to learn if they still contained any traces of milk. After much trial, she could squeeze from her left breast the smallest points of serum from the mouths of two or three of the galactophorous ducts, as is the case with most women who have suckled; but from the right breast not a trace of moisture could be expressed. The Bofareira was used night and morning for four days, by bathing with the decoction, and the application of the hot leaves to both breasts, in the manner described by Dr. M'William. After the second application, thick milk, like the colostrum, could be squeezed from both nipples, the breasts were considerably swollen, the glands in the axillæ were also painful, and pains extended down the arms. There were, in fact, in this case, all the symptoms present, in a minor degree, which are usually observed in the establishment of the milk after parturition. Mrs. H—— had also distinct periodical pains in the back and abdomen, which she compared to after-pains. A leucorrhœal discharge was also produced. At the end of the fourth day, milk flowed so freely into a breast-pump, that there was no doubt she could have suckled a child; but at this point the application of the Bofareira was omitted, and the milk has since gradually disappeared.

Case III. Mrs. D——, a married lady, without family, hearing of the use of the Bofareira in the last case, wished it tried upon herself. As there was no possibility of injury she was supplied with some of the leaves, and proceeded to use it. The application, and the use of the decoction, produced swelling of the breasts, pain in the back, and an increase of a leucorrhœal discharge, to which she is subject; but there was no appearance of milk in the breasts. At the time of using the Bofareira, the catamenial discharge had ceased about a week.

Case IV. M. L——, a young woman, who had been delivered three weeks, but whose milk, though profuse, was so poor as to be little more than serum, used the Bofareira three times. Under its use, the secretion from the breasts became markedly thicker; but the child was unfortunately attacked with diarrhœa, and it was not thought advisable to continue the use of this agent longer.

Case V. L. M——, a young woman, mother of one child, but who had weaned her infant about a year and a half, applied the Bofareira in the form of decoction and poultices two or three times; but the pain and swelling were so considerable, that she refused to go on with it. She had a little serum in the breasts, at the time when the use of the Bofareira was commenced. The secretion speedily became milky. This patient had a leucorrhœa, which had been present ever since the weaning; and the uterine and vaginal irritation, upon which the leucorrhœa depended, had kept up, in all probability, the serous secretion from the breasts, which is common enough in leucorrhœal cases.

Dr. M'William makes the following observations on the botanical name and characters of the Bofareira:

"The Bofareira grows in most, if not in all, the Cape de Verde Islands.

That used by the natives for the purposes I have mentioned, is called by them the *white* Bofareira, to distinguish it from what appears to be nothing more than a variety of the same species, the *red* Bofareira. The *white*, or that which possesses galactagogue qualities, is recognized by the natives by the light green colour of the stem of the leaf, whilst the leaf stem of the *red* is of a purplish red hue. The latter plant is carefully avoided, as it is said to be a powerful irritant, and if applied, as it occasionally has been, by mistake for the *white*, it produces an immediate and often immoderate flow of the menses.

"I regret not having been informed of the alleged difference in the action of the white and red Bofareiras, while I was at the Cape de Verde, that I might have examined the latter plant upon the spot.

"The seeds of each plant were, however, kindly forwarded to me by Mr. George Miller, and Sir William Hooker most readily and obligingly examined them. Sir William, in a note to me, says, 'What you mark as red Bofareira, and as white Bofareira, are both not only of the genus 'Ricinus,' but also of one and the same species—viz. Ricinus communis, the common palma Christi, or castor-oil plant. In our gardens, as well as abroad, the plants vary; and your two plants vary a little in the form and size of the seed, and especially in the colour, but they are one and the same species.'"

I have now used the leaves of the plants from the Botanical Gardens at Kew, the gardens at Chelsea, and the Botanic Gardens in the Regent's Park. At the garden in the Regent's Park, there are two fine plants, and I was struck with the red appearance of the stalk, and of the leaf stems and ribs of the leaves. The colour was nearly as deep as that of the common rhubarb. The leaves of these plants were also larger than any others I have seen. Inquiring of one of the gardeners, I was informed that there were two varieties, the ricinus communis major, and minor, and that the major was always of the same red colour. The smaller variety is of the green colour described by Dr. M'William. This probably is the explanation of the red and the white Bofareira of the Cape de Verd Islands.

Hitherto, the control we have had over the mammary secretion has not been very complete; *a priori*, there would seem no reason why we should not possess special excitants and sedatives of the mammary glands, as well as of other secretory organs. Abstinence and saline purgatives, local frictions and applications, have generally been relied on as lactifuges, when the arrest of the secretion has been desirable, either after parturition or at the close of lactation; but we have had no means of equal efficacy as galactagogues, in cases requiring increase of the milk secretion.

I believe Dr. Fleetwood Churchill has used opium as a galactophorous remedy, believing that it stimulates the mammary glands in common with the skin, while it diminishes all the secretions of the internal glands. Some persons have also given castor-oil as a purgative, with an idea that it increases the milk; but it has been thought that it produces this effect by moderating febrile excitement. In cases of arrest of the secretion from the breast in fever, and inflammatory diseases, all the febrifuge and antiphlogistic means become indirect restorers of the mammary secretion. There is a popular notion, that a fish diet produces more

milk than a meat diet. Fluids of all kinds stimulate the breasts during lactation, in common with the kidneys; but their effects in increasing the flow of milk are mechanical. It is a common plan for cow-keepers to give the milch-cows drink before milking them.

Some considerable control over the secretion of the breasts is given by the synergies or sympathies which exist between the breasts and other organs. It is known that the Arabs procure a supply of milk from their mares by irritating the vagina. In the human subject, irritation of the vagina and uterus in disease, will excite the secretion of milk. Milk is frequently found in the breasts in cases of tumours, in gonorrhœa, and in leucorrhœa. No doubt it is the irritation of the uterus during gestation, that causes the changes in the breasts incidental to pregnancy; and there is still less doubt that the secretion of milk after parturition is due to the irritation of the generative canal which obtains during and after labour. In women who menstruate during lactation, each menstrual period is accompanied by an increase, or "renewal", of the milk, as it is popularly called.

The sympathy, or synergy, between the stomach and the breasts is also very marked. After parturition, eating or drinking produces an immediate sensation in the breasts, which accompanies the after pains. Long after labour, and, indeed, during the whole of lactation, the "draught" in the breast is immediately produced by swallowing cold or hot drinks. This does not depend merely upon the passing of the fluid into the circulation, and its excretion by the mammæ. The sensation of the draught in the breasts follows too immediately upon the injection of food or drinks into the stomach, to admit of such a supposition; nor does the intensity of the sensation of the draught depend upon the quantity of drink taken, which it would necessarily do, if the circulation were the channel by which the stomach excited the breasts. It depends, on the contrary, either upon the intensity of the impression made upon the gastric nerves,—a wine-glass of hot drink, or a small quantity of ice, exciting the breast more than a hearty meal of food or drink at the ordinary temperature.

What is called the "draught", consists of two elements,—the sensation and the secretion. The sensation is a purely nervous phenomenon, and always precedes the secretion.

Another mode in which the breasts are excited to secrete, is through the influence of emotion. During the establishment of the secretion of milk after labour, the sight of the child excites the sensation of the "draught"; and during lactation, when the mother is absent from her child, the mere recollection of the infant is sufficient, in many cases, to produce it.

Mechanical irritation of the nipple is another mode of producing and increasing the flow of milk. Cases are on record in which even childless women have, by allowing the suction of an infant, had a secretion of milk established.

Does the Bofareira act according to a new principle? Has it a specific influence upon the mammary gland; or does it merely act by irritating the gland, as any other irritant would do? I believe it must be granted, that this plant has a specific galactagogue action; for it is upon irritating treatment and friction, that we depend for a diminution of the

flow of milk, when excessive, after parturition, or in weaning, at the end of lactation.

The leaves of the euphorbiaceæ all contain an acid principle. The leaves of Bofareira evidently contain castor-oil. The leaves are greasy upon the surface, and the taste of castor-oil is perceptible; but there is besides this an acid taste in the infusion of the leaves, probably depending on some essential oil. The infusion is not unlike senna in taste and smell.

Since the foregoing cases occurred, I have used the remedy in a case of scanty menstruation of a remarkable kind. Owing to exposure to marsh malaria, some years ago, the patient had scarcely a sign of coloured discharge at the usual catamenial periods. She used the infusion of the leaves of the red Bofareira at the date of her period, applying the infusion and leaves to the breasts, and the vapour to the genitals, with the effect of producing, in two days, considerable flow of the catamenia. From the effects in this case, and in one of the cases already related, the Bofareira promises to be of considerable value as a direct emenagogue; at all events the cases in which I have tried it, show that the plant does not lose its efficacy in this climate. I hope that, in America and other parts in which the plant is common, perennial instead of annual, extensive trials of its efficacy both as an emenagogue and a galactagogue, will be made.

7, Bolton Street, September 1850.

BIBLIOGRAPHICAL RECORD.

On Animal Chemistry in its Application to Stomach and Renal Diseases. By H. Bence Jones, M.D., A.M., Cantab., F.R.S, Fellow of the Royal College of Physicians, Physician to St. George's Hospital. 8vo., pp. 139. London: 1850.

This volume consists of twelve Lectures, delivered, last year, at St. George's Hospital, at the conclusion of the course of Chemistry. The author informs us, in his preface, that he had intended to illustrate them by cases, and to form them into a treatise on Stomach and Renal Diseases. We heartily wish he had accomplished this project; for, valuable as is the work now before us, we feel that its utility would have been greatly enhanced by its extension and illustration. Dr. Prout's deservedly celebrated work is both too large and too profound for the busy practitioner,—the man who can only read by snatches, and therefore needs his information to be presented in a small compass, divested of every thing that is not strictly essential.

Food. The First Lecture is occupied with this subject; and is admirable for its clearness and freedom from useless and perplexing speculations. All substances, vegetable and animal, which are fitted to sustain animal life, consist of ingredients belonging to the four following divisions: 1st, water; 2nd, salts, or ashes; 3rd, organic substances containing very little or no nitrogen,—as fat, vegetable acids, starch, sugar, etc.; 4th, organic substances rich in nitrogen,—as fibrin, albumen, vegetable albumen, etc. No two different articles of food probably contain these ingredients in the same proportions; and, accordingly, they vary in their nutritive qualities, those being most nutritious which have the largest supply of nitrogenous compounds. But the absence of any of them is destructive of the perfect fitness of the substance as an article of diet, when taken by itself. "On olive-oil, linseed-oil, or cod-liver oil, an animal may grow fat, but he cannot work on such food alone. For the work of the muscles, it is requisite that the food should be albuminous, not fatty. A horse, for example, for hard work, must have corn, and not hay. To do work, food rich in nitrogen is necessary; to grow fat, food rich in carbon is required." But neither will nitrogenous substances alone suffice for food. Animals fed on white of egg died of starvation. There must be a due admixture of all. This is shown in the composition of milk, the type of the food for infants; and in that of wheat, which may equally be regarded as the type of the food for man, with this exception, that water is requisite in addition to the latter.

One great object of vegetables is to prepare the food for animals. "Vegetables, from the air, the water, and the soil, make compounds which animals require,—substances, that is, which, with the least possible change, can be formed into parts of the animal. Vegetables, from carbonic acid, ammonia, water and salts, form albuminous substances, fatty matters, starch, sugar, whereby the various organs of the body are nourished and enabled to perform their actions. The power of forming higher compounds out of more simple ones, is, in vegetables, unlimited. Their power of thus compounding simple substances into more complex ones, is most extensive; whilst, in animals, the power of conversion is probably limited to a simplifying change,—the power of forming higher organic compounds out of lower ones is at present unproved. But, you might say, cannot animals make nervous substance,—the noblest substance in creation, whose action so utterly forbids our comprehension? If we examine this nervous substance, we find it also consists of the four classes, viz, albuminous substance, fatty substance, ash, and water; and the highly-organized muscle contains the same substances in different pro-

portions. The power of animals is shown in their forming the substances which they obtain from vegetables into complex structures and organs; whilst the power of vegetables is shown in the production of new compounds, new arrangements of the elements into higher and more complex bodies,—as vegetable acids, alkaloids, neutral substances, albuminous and fatty matters. The power of adapting forms, and making organs, the formative and organizing power, is more seen in animals than in vegetables. The power of building up new compounds, new substances—the compounding, or substance-making power, is, with some exceptions, perhaps limited to vegetables." This is a very important distinction, which should be always kept in mind.

Digestion is the subject of the Second Lecture. Rejecting the divisions usually recognized, Dr. Jones adopts the following as the steps in the process of digestion: 1, solution; 2, absorption; 3, assimilation. Before any substance can be absorbed, and made part of the system, it must be dissolved. The solvent of the food is the gastric juice, a highly acid fluid, secreted by the stomach. It consists of water and free acid, salts, non-nitrogenous organic substances, and albuminous, or nitrogenized substance. "Of these substances, the most important is the free acid. What the free acid is, has not yet been determined. Hydrochloric, phosphoric, acetic, lactic, and butyric acids, have each been said to exist in the gastric juice. The hydrochloric and phosphoric acids are mineral or inorganic acids. The rest are organic acids, possibly arising from starch, sugar, or fat, or other compounds of the non-nitrogenized part of our food. Thus these organic acids might be formed; but whence can the inorganic acids come? Hydrochloric and phosphoric acids exist only in the food and blood, combined with soda, potash, or lime, as in common salt, phosphate of soda, or phosphate of lime. To set free the acids, the alkalies must be separated. If one equivalent of hydrochloric acid is set free in the stomach, one equivalent of soda must be set free in the blood. The greater the quantity of acid in the stomach, the greater the quantity of alkali in the blood, and the more alkaline the serum must become. Whether this separation is effected by galvanic action, nervous action, or muscular action, is at present altogether unknown. Those who say anything, say it is by vital action.....When digestion is completed, the acid is reabsorbed with the food, and the alkalescence of the blood must be altered in the opposite direction. When the stomach is empty, there is little, if any, acid there then; when food is taken, the quantity of acid begins to increase, and gradually reaches the greatest amount poured out."

The next most important constituent of the gastric juice, is the albuminous substance. Its exact nature is not known. Dr. Jones does not believe it to be epithelium, but most probably a peculiar substance like diastase. Wasmann called it pepsin. The non-albuminous organic substances are the organic acids and fatty matter,—the last probably in very small quantity.

This complex gastric juice acts differently on nitrogenized and non-nitrogenized food. "Strong acids easily dissolve albuminous substances; and the dilute acid of the stomach, in consequence perhaps of some influence of the nitrogenized pepsin, or animal diastase (?), is made to act as energetically on the albuminous food, as strong acid would do. In this action there is nothing vital; it takes place as well out of the body as in it. The elements of the albumen cannot be converted so as to form water, salts, sugar, or fat. There is no formation of incipient albumen. If you please to call solution, reduction, or combination of water with the substance dissolved, you may say the albumen is reduced. To me it is far more simple, and quite as comprehensible, to speak of it as a process of solution, and as nothing else." In this we thoroughly agree with our author.

Starch is perfectly insoluble in water and in dilute acids; but by the action of dilute acid it easily undergoes a change, by which it is rendered soluble, becoming what is called dextrine. A continuation of the same action

converts the dextrine into sugar. "A portion of the sugar, which is taken as such, or is formed from starch in the stomach, without doubt passes into the blood as sugar; but it appears to me highly probable, from Fremy's experiments, that a portion is changed into some of the vegetable acids. The acetic and lactic acids may thus be formed; and these, in part, perhaps may become lactates and acetates of soda in the blood. And we know, from direct experiment, what happens to vegetable acid salts injected into the blood, or taken into the stomach: they are oxidized, or burnt, giving heat, and carbonic acid salts, which pass off in the urine. All free vegetable acids are probably changed partly into carbonic acid in the blood. Thus, then, probably the progress of a grain of starch may be traced. It forms, first, dextrine; secondly, sugar; thirdly, vegetable acid; fourthly, carbonic acid. The ascending conversion of sugar into albumen cannot be admitted until it is proved. There is not an experiment which renders such a change probable."

The pancreatic fluid and the bile are generally considered as the agents which make the fat and oil of the food soluble.

The Blood is treated of in the Third Lecture. We quote the following pregnant observations: "There is not, nor, indeed, can there be, any standard analysis of blood, to which all others may be referred. The blood has been called an internal atmosphere; and, in its constant, momentary variations, in its unceasing change, it may well be compared to the atmosphere. Each moment its composition, as a whole, is changing; each respiration produces its change on the blood; each time food is taken, a great change in the blood must occur; you cannot add a pound or two of matter to the blood without changing it; each action of a muscle, or nutrition of any part of the body, must take something from the blood, and thus change its composition. So, also, each excretion from the blood must effect its peculiar changes on that blood, out of which each excretion is taken. These are the broad outlines of the causes of the changes of blood. The water is always changing; the nitrogenized and unnitrogenized substances are always varying in amount; even the salts, even the alkalescence of the blood, is in a perpetual state of variation; at no two moments of the day is it the same. The quantity, then, of the various substances present in the blood is constantly changing; and the variations in the state of health require to be far more minutely studied than they have been, before deductions as to the variations in disease can be safely trusted."

To detect uric acid in the blood, Dr. Jones recommends the following process: "The clear serum is poured into a basin, and evaporated, at 212°, to perfect dryness. The mass is to be reduced to the finest possible powder, and then heated, at the temperature of 100° F., with distilled water for an hour. By this means, everything soluble in the residuum is obtained in solution, and the urate of soda, being soluble, is dissolved out. The solution is then to be evaporated to a very small bulk, and strong acetic acid should be added. Acetate of soda is thus formed, and uric acid is set free; and, in the course of a few, or many hours, according to the quantity of uric acid, and the dilution of the mother liquor, the uric acid crystallizes out on the sides or bottom of the tube. To the eye, the crystals look like small grains of cayenne pepper; through the microscope, they look like some uric acid crystals from the urine; and, if a few of them are taken and treated with nitric acid and ammonia, in the usual way, the diagnostic pink reaction is obtained."

Calculi. The Fourth Lecture contains an admirable account of the different Calculi found in the urine, with the methods to be employed for their analysis. For these we must refer to the work itself, as any epitome would be meagre and unsatisfactory.

The Quantity and Acidity of the Urine are considered in the Fifth Lecture. After showing how it is not possible to determine the quantity of solid ingredients by the tables which have been constructed for that purpose, the specific gravity being the guide, Dr. Jones relates several experiments from which the following conclusions are drawn. "From these experiments it appears that. immediately before each meal, the urine showed the highest degree of acidity; and the water passed two, three, or more hours, after food, always showed a lower degree of acidity. The decrease was greatest three hours after breakfast, and five or six hours after dinner, when it reached the lowest point. The acidity of the urine then increased, until immediately before food, when it again reached its highest limit. If no food was taken, the acidity of the urine did not decrease, but remained nearly at the same degree of acidity for twelve hours; but, then, directly after food was taken, the acidity fell. When animal food only was taken, the diminution of the acidity after food was more marked and more lasting than when a mixed diet was taken. The increase of acidity before food was hardly so great, as when mixed diet was taken. When vegetable food only was taken, the decrease in the acidity was not so great as when animal food was taken,—that is, though the urine became neutral after food, it did not become highly alkaline. The increase in the acidity of the urine was higher before vegetable food than it was before animal food was taken. Dilute sulphuric acid was taken in large doses, but it did not produce a very decided effect. Nine drachms of dilute sulphuric acid, in three days, slightly diminished the decrease in the acidity of the urine after food; but the acidity before food was very slightly, if at all, increased thereby. By comparing the acidity of the whole quantity of urine passed in twenty-four hours for three days when no sulphuric acid was taken, with the acidity when nine drachms of dilute sulphuric acid were taken during three other days, the increase in the acidity, though not very marked, was decidedly apparent. The average quantity of carbonate of soda required to neutralise the whole of the urine made in twenty-four hours, when no sulphuric acid was taken, was 15·39 grains. The average quantity required when sulphuric acid was taken, was 20·38 grains. There was but little difference in the quantity of urine.

"Tartaric acid, in large doses, produced a decided effect on the acidity of the urine. Three hundred and fifty-four grains of dry and pure tartaric acid, taken in three days, increased the acidity of the urine; but, in that time, it did not render the effect of digestion on the reaction of the urine less apparent than it was when no acid was taken.

"Liquor potassæ, in large doses, produced a decided effect in diminishing the acidity of the urine; but it by no means renders the urine constantly and permanently alkaline. Its effect seems to pass away rapidly. An ounce of strong liquor potassæ, taken in three days, did not counteract or conceal the influence of digestion on the reaction of the urine.

"Tartrate of potash produced a most decided and rapid effect on the acidity of the urine; one hundred and twenty grains of pure dry tartrate of potash, dissolved in four ounces of distilled water, made the urine alkaline, in thirty-five minutes. In two hours, the alkalescence had disappeared; but after the next meal, the effect of the tartrate of potash was again apparent. Ten drachms of tartrate of potash, in three days, produced but little, if any, effect on the acidity of the urine after it had been omitted for twenty-four hours."

Dr. Jones does not speak positively as to the cause of the acidity of the urine, though he considers that it probably results, generally, from the presence of acid phosphate of soda.

Uric or Lithic Acid is the subject of the Sixth Lecture. According to our author's observations, the uric acid exists in combination with ammonia, the urate of ammonia being modified in form and in solubility by the pre-

sence of common salt, and other saline substances. He has not been able to prove the existence of two compounds of uric acid and ammonia, and suspects that the super-salt, described by Dr. Bensch, was a mixture of uric acid and urate of ammonia. That the acidity of the urine is not caused by such a super-salt, as Dr. Prout supposed, is evident from the fact, that the variations of the acidity of the urine and of the uric acid, instead of coinciding, have an inverse relation to each other: when the urine is very acid, there is usually but little urate of ammonia present; when there is much urate of ammonia, not unfrequently the urine is nearly alkaline.

The quantity of urate of ammonia varies remarkably during the day. A few hours after any food, the amount is increased; long after all food, it is excessively diminished. It is but little affected by differences in the kind of food. A slight excess or increase in the acidity of the urine will cause the precipitation of urate of ammonia. If it be highly acid, a precipitate may occur, even when no excess of the salt exists. If the urine tend to alkalescence, an excess of urate of ammonia will be dissolved, and will show no appearance of a superabundance of urates. The precipitation of uric acid crystals depends only on the acidity of the urine, and is quite independent of the quantity of the urate of ammonia excreted. They constitute by far the most delicate and trustworthy test of an over-acid state of the urine.

In regard to the treatment of these two kinds of deposit, Dr. Jones writes, "If uric acid crystals are present, there are two things to be done, namely, to give alkalies, and to forbid and remove all that may become acid. For the first, caustic alkalies, carbonated alkalies and earths, saline draughts, and phosphate of soda;—these must be regulated according to the peculiar symptoms of the patient: for the second, vegetable acid, sugar, and starch in the food, should as far as possible be prohibited. The removal of acids by the skin, and of carbonic acid by free respiration and exercise, is of still greater benefit; shortly, the uric acid crystals indicate that acidity must be removed, neutralized, and prevented.

"When uric acid crystals are absent, and urate of ammonia is deposited alone, it is a proof that no great excess of acid is present in the urine, otherwise uric acid would be found; and though, by lessening the acidity of the urine, we can keep the urate of ammonia dissolved in it, and so hinder it from appearing, yet this is not the best mode of proceeding for effecting even this purpose. An extra glass of water, or soda-water, or some slight diuretic, as nitre, is more sure to keep the urate of ammonia in solution by increasing the quantity of urine, and this is the best palliative treatment; whilst the curative treatment consists in lessening the quantity of food taken, by smaller meals, and in lessening the acidity of the urine, by increased exercise. Thus you will best prevent deposits of urate of ammonia, and the alkalies may be kept until uric acid crystals appear, when they are as necessary, as in urate of ammonia deposits they are unnecessary, for the treatment."

Oxalate of Lime and Sulphates form the subject of the Seventh Lecture. Octahedral crystals of oxalate of lime are so often found, in cases of such very different characters, and even when there is no evidence of disease, beyond some indigestion, that Dr. Jones (and in this we fully agree with him) does not consider that they are of more importance than a deposit of urate of ammonia. In the treatment, "ammonia, mineral acids, quinine, and iron are indicated. Animal diet, cold baths, and brandy and water, appear frequently to give much benefit. When there is irritable bladder, with excess of mucus and epithelium, camphor and compound tincture of camphor have proved very useful. If blood-globules occur with the octohedral crystals, the presence of gravel or calculus in the bladder or kidneys becomes probable. Whether sugar gives rise to oxalic acid in the urine, is far from being determined. When no sugar at all has been taken, and the

patient has lived on animal food alone, I have found oxalate of lime in plenty in the urine. I have already stated to you, that sugar is most probably converted into some acid in the stomach; and that sugar should therefore be avoided in some cases of indigestion, is most certain. That the use of distilled water, instead of spring water, will lessen the quantity of lime passing through the body, is also most certain. By this means, the oxalate of lime may be somewhat lessened; but by air, exercise, and careful diet, the disorders which accompany it may be cured."

It is impossible to determine, from simple inspection of the urine, whether there be or be not present an excess of sulphates, because they never form a deposit. The fact may, however, be ascertained by the following method. About five hundred grains of urine are weighed, and chloride of barium is then added in excess, and a few drops of nitric or hydrochloric acid are employed to ensure the solution of the phosphate of baryta. Heat is then applied, and the liquid is boiled for a few minutes briskly. The sulphate of baryta is then filtered, and well-washed, until the clear liquid is perfectly free from chloride of barium. The filter is burnt, and the residue weighed; and thus the amount of sulphate of baryta in a known quantity of urine is determined.

Proceeding in this way, Dr. Jones has ascertained, 1. That the sulphates in the urine are much increased by food, whether it be animal or vegetable. 2. Exercise does not produce so marked an increase in the sulphates. 3. Sulphuric acid, when taken in large doses, increases the sulphates in the urine; in small quantity, it produces little or no effect. 4. Sulphur, when taken, increases the sulphates in the urine; and sulphate of soda or magnesia produces the greatest effect on their quantity.

Alkaline and Earthy Phosphates are treated of in the Eighth Lecture. Dr. Jones considers that the term phosphatic diathesis is incorrectly applied to those cases, in which there is a deposit of earthy phosphates, because such deposits merely show that the urine is not acid enough to retain them in solution; they by no means give any indication of the quantity of phosphatic salts present. He, therefore, would call such urine alkaline, if the deposit result from excess of fixed alkali; ammoniacal, if from the presence of carbonate of ammonia.

The alkaline phosphates exist in the urine in much larger quantity than the earthy; but they never make their appearance as deposits, and therefore can only be measured chemically. Their excess constitutes the true phosphatic diathesis. The following is the method to determine the quantity of phosphates and their variations. "About one thousand grains of urine are weighed, and the earthy phosphates precipitated by pure ammonia free from carbonate. They are filtered, washed with ammoniacal water, and heated to redness, adding a drop or two of nitric acid; then the earthy phosphates are determined by weighing the residue. The alkaline phosphates are estimated by taking about five hundred grains of urine, adding an excess of chloride of calcium, and then pure ammonia. Thus all the phosphoric acid is precipitated as phosphate of lime. This is filtered, well washed, and the filter and precipitate burnt with a drop or two of nitric acid. If the filtration has been slow, it is necessary to re-dissolve the residue in the platinum crucible by hydrochloric acid, and to re-precipitate by pure ammonia, after which the filtration will take place very rapidly. After being burnt, the crucible is weighed, and by deducting the previously determined earthy phosphates, the difference may be taken as alkaline phosphate." Proceeding in this way, Dr. Jones ascertained, that the amount of earthy phosphates depends chiefly on the amount of earthy matter taken into the body, and that the amount of alkaline phosphates depends chiefly on the food, being increased by vegetable diet, but that exercise also causes some increase.

After a long inquiry into the total amount of phosphates in various diseases, he has arrived at the following conclusions.—"1. The variations of the

earthy phosphates are so dependent on the earthy matter (lime or magnesia) present in the urine, that no deduction from them as to the nature or state of the disease is possible. 2. Neither the earthy phosphates, nor the alkaline phosphates, are permanently increased in spinal diseases. 3. In fevers, and acute inflammations of fibrous, muscular, or cartilaginous tissues, the total amount of earthy and alkaline phosphates is not increased. 4. In chronic diseases, in which the nervous tissue is not affected, no deduction can be drawn. 5. Chronic cases of mania, melancholia, and general paralysis of the insane, gave no marked results. 6. In chronic diseases of the brain, and in chronic and even acute disease of the membranes, there is no increase in the total amount of earthy and alkaline phosphates. 7. In fractures of the skull, when any inflammation of the brain comes on, there is an increase in the total amount of phosphates. When there are no head symptoms, no increase of the phosphates is observed, even when other acute inflammations supervene. 8. In acute inflammation of the brain, there is an excessive amount of phosphates in the urine. When the inflammation becomes chronic, no excess of phosphates can be shown to exist in the urine by the method of analysis that was employed. 9. In some functional diseases of the brain, an excessive amount of phosphates is observable; this ceases with the delirium. Delirium tremens shows a remarkable deficiency in the amount of phosphates excreted, provided no food is taken. When food can be taken, the diminution is not apparent."

The Alkalescence of the Urine, from fixed and volatile alkali, is discussed in the Ninth Lecture. All urine, after standing for a time, which is exceedingly variable in respect of length, becomes alkaline, the elements of the urea being re-arranged so as to form carbonate of ammonia. It is probable, that the chief agent in this change is the mucus; and it is certain that the greater the quantity of mucus present, the more rapid is the decomposition. Hence alkalescence of the urine follows speedily on irritation of the mucous membrane of the bladder. But the urine is often alkaline without the production of any carbonate of ammonia, this condition being caused by the presence of carbonate or phosphate of soda. The following sketch shows the comparative characters of the urine under these circumstances.

Alkalescence from carbonate of ammonia caused by local disease.	Alkalescence from fixed alkali caused by general disorder.
Blue paper made red on drying.	Blue paper not made red on drying.
Alkalescence constant.	Alkalescence variable.
Excess of mucus and pus present.	No pus. Rarely much mucus.
Prismatic crystals generally seen.	When first made, granular deposit only seen.
The iridescent film has prismatic crystals.	The iridescent film consists of thin plates only.

These distinctions are of importance in the way of diagnosis, and therefore of treatment. In either case, the diseased condition which produces the alkalescence of the urine should be the subject of treatment, not the mere symptom itself. The rest of this lecture is occupied with the chemistry of urea.

Albuminous Urine is the subject of the Tenth Lecture. Heat and nitric acid together form the best, and indeed the only safe test for albumen, and the above is the order in which they should be employed. Either alone may give rise to mistakes. Dr. Jones very properly insists upon the importance of using a perfectly clean tube. A small quantity of strong acid will prevent the coagulation of the albumen by heat; and it even appears, that the same test may fail when the urine is very acid, without anything having been added to it. Albumen is never present in healthy urine, but by itself it merely indicates excessive congestion of some part of the urinary organs; to determine what disease is really present, the microscope must also be em-

ployed. By this means, we detect the presence of blood-corpuscles, or pus-globules, or fibrin. If the fibrin be moulded into the urinary ducts of the kidney, and if albumen be also present, with or without blood-globules, there must be congestion of the cortical structure of the kidneys; and most probably the disease is Bright's disease, or the result of scarlet fever. If blood-globules be found, and no fibrinous casts, it is most probably that the congestion is not in the secreting structure of the kidney; and if crystals of uric acid or oxalate of lime be seen, then probably some calculus is causing abrasion of the vessels of the mucous membrane. Whether the calculus is in the pelvis of the kidney, the ureter, the bladder, or prostate, must be determined by the general symptoms. The nature of the epithelium that occurs in the urine, will also sometimes help to determine this question. The occurrence of the blood only on exertion tends to confirm the diagnosis of a calculus. If pus-globules be found with albumen, then suppurative inflammation is going on; if, at the same time, fibrinous moulds are seen, then probably Bright's disease and inflammation of the pelvis co-exist. If there be no moulds, but blood-globules and pus-globules, then probably a calculus has caused not only abrasion, but inflammation of the mucous membrane. When fibrinous moulds, blood-corpuscles, pus-globules, albumen, and crystalline deposit were seen, then degeneration of the kidney, inflammation, and calculus, were found on post-mortem examination. In one case, Dr. Jones found the urine albuminous from spermatozoa.

A peculiar substance, closely relating to albumen, has also been found in the urine, as well as in the buffy coat of inflamed blood. It is not precipitated directly by heat, nor by nitric acid, but if, after boiling, the urine is cooled, the precipitate falls, and is re-dissolved by heat. The nature of this substance is detailed by Dr. Jones in the *Philosophical Transactions* for 1847.

Our author then relates the following interesting case: "The patient had for some time been passing the so-called chylous urine; but I have fully satisfied myself that the presence of fat in the urine, on which the white colour depends, is an accident only, and by no means the most peculiar part of the disease. The fat passes off in the urine, making it milky only after food; but previous to any food, albumen, fibrin, alkaline salts, and more rarely a few blood-globules, are thrown out by the kidneys, and their appearance in the urine depends on the increased force of the circulation, consequent on waking, on getting up, and on exertion; for, during sleep, the albumen, fibrin, etc., entirely disappear from the urine, and, by directing the patient to lie in bed, or to get up and exert himself, totally different kinds of urine were passed. When perfectly quiet, the albumen and fibrin were prevented from appearing in the urine; and, when he exerted himself before breakfast, these substances transuded in very considerable quantity. The urine sometimes, previous to any food, even formed a jelly-like clot, transparent, and perfectly free from the appearance of fat. I satisfied myself that the disease does not depend on chyle or on fat, but on a slight alteration in the state of the kidney, and on the circulation of the blood through it. Under treatment, the urine became perfectly healthy."

Diabetes and Diuresis are the topics of the Eleventh Lecture. The best tests for sugar in the urine, are the oxide of copper and oxide of silver. To a drachm of suspected urine, add two or three drops of a saturated solution of sulphate of copper, and then two drachms of caustic potash; the hydrated oxide of copper, which first is precipitated, re-dissolves if sugar or many other organic substances are present, becoming of an intense blue; and when heat is applied, if grape-sugar be present, the oxide of copper is rapidly reduced, and reddish-yellow sub-oxide of copper is precipitated. This reduction is effected by the carbon of the sugar. With cane-sugar, the changes do not take place until after a long application of the heat; and, under these circumstances, both uric acid and albumen will also effect a slow reduction of the oxide of copper. The rapidity of the change is consequently the test.

If silver be used, the following is the method to be employed. A few drops of a saturated solution of nitrate of silver are to be put in a test tube, and a single drop of caustic ammonia added; if a brownish oxide of silver fall, a single drop of the suspected urine is to be added, and the test-tube then heated, and its contents well shaken. In a few seconds, the sides of the tube will be coated with silver, and the metallic lustre will be seen.

The theory of the disease is as yet unknown. Sugar, as we saw before, is constantly formed in the body from starch; from some cause, with which we are not acquainted, the progress of the starch may be arrested at this point. In cases where the urine is excessively acid, the changes have advanced another step; as thus:—

In health the changes are, starch, dextrin, sugar, vegetable acid, carbonic acid.

In excessive acidity; starch, dextrin, sugar, vegetable acid.

In diabetes; starch, dextrin, sugar.

But the starch taken in food cannot account for all the sugar in diabetic urine; for when the disease is fully established, total abstinence from starch and sugar will not cause the sugar entirely to disappear. Dr. Bensch has shown, that sugar of milk is invariably present in the milk of carnivorous animals fed exclusively on meat; and by boiling with water, the livers of animals fed exclusively on flesh have furnished positive proof of sugar.

There is a form of diabetes to which the term *insipidus* has been applied. In these cases, the urine contains a substance closely allied to sugar, but tasteless, and which may be converted into grape-sugar by the action of acids. In some cases of the ordinary disease, the urine has been found to contain these two saccharine bodies alternately; and therefore the term is a needless one.

The Relation of the Urine to the Food and System, and the general method for its examination, are considered in the Twelfth and Last Lecture. Any organ that is used must be repaired, and the substance that has been used must be removed. Take the muscles for example; the muscles consist of water, salts, non-nitrogenous fat, and a highly compound arrangement of carbon, hydrogen, nitrogen, oxygen, sulphur, and phosphorus. Carbonic acid, ammonia, water, sulphates, and phosphates are the last products of muscular action, and of the action of oxygen on the muscle. The intervening products, probably, are innumerable; as kreatin, kreatinine, uric acid, urea, choleic acid. Some of the products are thrown out of the body by the lungs, others by the kidneys. If the removal of some of these products by the lungs is stopped, the circulation through the lungs ceases in two minutes; the functions of the heart and brain are arrested, and from the mechanical stoppage in the lungs, death ensues. If their removal by the kidneys is stopped, in two days the patient is poisoned; the nerves and muscles are affected by the poison, and chemical death ensues. "If beef-steaks (the muscles of an ox) are given to one who has taken strong exercise, and is in perfect health, they are dissolved, and pass into the blood, and their chief use is to repair the muscles and nerves, not to form uric acid and urea, the constituents of the urine. The waste of the muscles, and other organs, passes off in the urine, whilst the food nourishes the wasting organs. Such I conceive to be the clearest ideas I can give you of the relation of the urine to the system, and to the food; and, theoretically, I consider this is the true healthy relation, and perhaps, in a state of full bodily labour, when enough food, and no more than enough, is taken, this may be the only relation; but provision has been made for too little labour and for too much food. If too much food is constantly taken, and too little exercise, plethora and hæmorrhage must take place, if some escape for the excess of food be not provided. You have seen that the phosphates, urates, and sulphates are generally increased in the urine after food has been taken. If more food is taken than is required for the wants of the system, the excess is thrown

out by the same organs that remove the waste of the muscles and other structures. If even excess of water alone is taken, the excess is thrown out partly, at least, by endosmotic laws not yet clearly applied. How the quantity of substances to be thrown out is determined, I do not yet distinctly see."

The great agent in affecting these changes is oxygen. Of this there are many familiar proofs, as the production of carbonate of potash in the urine after the citrate of potash has been taken. "Very lately, Professor H. Rose, of Berlin (*Phil. Mag.*, July 1849), has made some most interesting experiments on the inorganic constituents of organic bodies, chiefly as regards their degree of oxidation. He divides the degrees of oxidation into fully oxidized, partially oxidized, and unoxidized. He compares the food, the blood, the flesh, and the urine. The food, if it consists of wheat and other grain, contains organic substances, the inorganic constituents of which exist partly in an oxidized, partly in an unoxidized state. Vegetable food, then, is partially oxidized. The blood is a partially oxidized body. The flesh is a partially oxidized body; but the quantity of unoxidized matter in the blood is larger than in the flesh, and the quantity of fully oxidized matter is smaller in the blood than in the flesh. The urine is a perfect and fully oxidized substance. The inorganic constituents of the urine are as highly oxidized as it is possible for them to be."

The length to which our analysis of these lectures has extended, notwithstanding the wide circulation which has already been given to them in the *Lancet*, is a sufficient proof of the very high value which we attach to them. Still, it is only simple justice to the author, and to our readers, to urge the latter to obtain them, if they wish to possess the most lucid and satisfactory exposition, in our language, of the subjects of which they treat. We hope soon, again, to meet the accomplished author in the same important, but most difficult, field of inquiry: a field which can only be cultivated with advantage by one who possesses, like him, the rare qualifications of being alike thoroughly accomplished as a chemist and as a practical physician.

Cholera and its Cures. An Historical Sketch. By J. Stevenson Bushnan, M.D., Member of the Royal College of Surgeons of England, and Fellow of the Royal College of Physicians, Edinburgh. 8vo., pp. 169. London: 1850.

This is not a regular treatise on Cholera, but in reality a sketch, as the title truly indicates. In attempting to deduce from the work itself the purport of its publication, two prominent objects are apparent,—one, to advance the progress of what has been termed Sanitary Reform; the other, to defend the author, and advocate the adoption of a particular remedy, to the exclusion of all others. Indeed, so ardent an admirer is Dr. Bushnan of one peculiar mode of treatment, that the preliminary step of depreciating all other remedies, is not delayed beyond the first page of the preface, in which it is asserted, without any modification, "that the mortality of Cholera has not been diminished a single *iota*, by the means usually employed, and that nearly half of those attacked have been cut off in every part of the world." This is sufficiently explicit, and discouraging at the same time; but it is consolatory to know that "if the ignorant will submit to be enlightened, and the prejudiced will listen to reason", Cholera "may be shorn of its terrors, and brought completely under medical control". The reader, with some pardonable misgivings, will naturally inquire, how such a consummation, in every respect so desirable, and so diametrically opposed to all past experience, is to be effected? and in reply, he will be told by Dr. Bushnan, that the cure of Cholera, by the saline remedies, introduced into practice by Dr. Stevens, is so certain, that it may be looked on as an axiom in medical science, or, to employ the quotation of the learned writer, "*demonstratum est quod erat demonstrandum*".

So far all appears satisfactory; but, when we come to examine the

amount of evidence, on which this very important alleged demonstration is made to rest, it may be permitted us to suggest, without appearing hypercritical, that the foundation seems rather slender, for supporting the weight of the superstructure erected on it. For, leaving apart all mere opinions (not very numerous), in favour of the saline treatment, which are unsupported by facts, we find the cases actually adduced by the learned author, in proof of its efficacy, to be those treated by Dr. Stevens himself, in conjunction with his assistant, Mr. Crooke, and Mr. Wakefield, at the Coldbath-fields prison ; by Dr. Kendrick, at Warrington ; by Mr. Bossey, on board the Woolwich convict-ship ; and by Dr. Marsden, at the Greville-street Hospital—all occurring in the year 1832, and amounting on the whole to about 1,000 cases ! The statement with respect to the first-mentioned institution, is, that of 446 patients treated on the saline plan, 201 of whom were in a state of collapse, only eight died, and 438 recovered, showing a mortality of less than three per cent. This enumeration includes the results obtained by Dr. Stevens in the first irruption of the disease, at which period, of 159 patients *affected with Cholera*, 158 *recovered, and only one died.* This is a degree of success, beyond what most practitioners could show, in the treatment of any disease whatever, and exhibits Cholera as the most manageable, instead of the most terrible and intractable of all maladies, which are permitted to afflict the human race. But most sober-minded physicians, who have derived their knowledge from a practical acquaintance with the disease in question, will, we are disposed to think, conclude with us, even at the risk of being ranked among the "ignorant and prejudiced", that the results referred to prove a great deal too much. Of Dr. Kendrick's experience, limited to thirty cases, it is only necessary to observe, that even as far as it goes, it is not favourable to the pure saline treatment, which was less successful in his hands, when used alone, than when conjoined with blood-letting. In Mr. Bossey's practice, too, the success of the saline remedies alone, and when employed along with bleeding, was nearly on a par. Dr. Bushnan, therefore, in claiming the entire credit for the saline treatment in these cases, either overlooks altogether the influence of so powerful an auxiliary as general blood-letting, or else he attributes to it no share in the successful result. The testimony of Dr. Marsden, however, is more favourable than that of the two last-mentioned practitioners ; for out of 81 collapsed patients, treated solely on Dr. Stevens' plan, seven only died, showing a mortality of about 8·6 per cent. Such is a brief *resumé* of the entire statistical facts adduced in support of Dr. Bushnan's views. For the history of the saline treatment, and the controversy between Dr. Stevens and his friends on one side, and the late Sir David Barry and his coadjutors on the other, we must refer the reader to the elaborate statement of Dr. Bushnan, as we have neither space nor inclination to enter into the subject. This, however, is the less necessary, and would perhaps be premature, as further communications are promised ; and, after the statements of Dr. Bushnan, it does not seem likely that the question will be allowed to rest in its present position.

With reference to the more important topic, the practical value of the saline treatment, it is to be observed, that Dr. Bushnan has confined his advocacy entirely to one side of the question ; and that, whilst his work professedly embraces the history of the recent irruption of Cholera, all his testimony in favour of Dr. Stevens' remedies is deduced from the epidemic of 1832. In a fair discussion of the point at issue, surely some notice of more recent experience might naturally have been looked for, before the learned author arrived at conclusions so positive ; and it certainly would not have been unreasonable to expect, that some notice at least would have been taken of the unsuccessful results of the saline treatment in the hands of Dingham, Richardson, Ross, and others, during the last epidemic. Were the arguments and evidence of the writer sufficient to establish the very important point for which he contends, we are certain that his success would be hailed by every member of the medical profession with unequivocal delight, whilst the

discovery would constitute for Dr. Stevens a lasting claim to universal gratitude, as one of the greatest benefactors of the human race. As it is, however, and in the present state of our knowledge on the subject, we fear that Dr. Bushnan has as far over-estimated the efficacy of the saline treatment, as he has under-rated the value of other remedies, although we admit that he has castigated with just severity some of the unmitigated quackeries called forth by the last epidemic.

The erroneous estimate of treatment, into which he, as well as many others, has been betrayed, probably depends on *a difference of opinion as to what really constitutes the disease in question.* Malignant Cholera, we fear, has not yet been divested of all its terrors; and, in our opinion, the infallible remedy still remains to be discovered.

This is the general plan of the work before us. The first chapter contains a succinct sketch of the progress of the various epidemics of Cholera since 1817. The second chapter refers to the nature and causes, and to the more early history of the disease. The author correctly adopts the opinion of several previous writers, that Cholera was known to the ancients, and that the popular classification into English, Bilious, and Asiatic, or Malignant Cholera is erroneous, except as far as it implies the different degrees of intensity assumed by the malady. In support of this view, he quotes the opinion of a recent writer on the subject, to the effect "that if we go beyond this, we are inferring a difference, unfounded in fact, unsupported by observation and legitimate deduction, and of injurious practical tendency." In passing, we may observe, that Dr. Bushnan incorrectly attributes the quotation which he here makes use of, to the author of the article Cholera in the Cyclopædia of Practical Medicine, whereas it is really to be found at page 33 of "An Enquiry into the actual state of our knowledge of Cholera," by Dr. Alexander Knox.

In the author's discussion on the causes of the disease, little novelty is of course to be looked for. The views of many previous writers are given, and the sources from which they are derived are generally distinctly referred to. The only alleged causes, bearing even the semblance of novelty, are impregnation of the atmosphere with sulphuretted hydrogen, the continued use of a diet deficient in sulphur, and the transmission of the disease through the medium of impure water, according to Dr. Snow, or of impure water only, in common with various other causes, as asserted by M. Pellarin. We may allude further to the experiments and observations of Brittan, Swayne, and Budd, tending to shew that Cholera depends on peculiar microscopic bodies, of various forms, and of a fungoid nature, found in the choleraic discharges, as well as in the air and water of Cholera districts. We have not space for any detailed consideration of these theories, but it is difficult to understand how sensible and clever writers can persuade themselves of the truth of views, however ingenious, founded on data manifestly imperfect. How many readers, we may ask, are likely to adopt the conclusion of Professer Webb, (to be found in his *Pathologia Indica*), that of all the causes of Cholera, sulphuretted hydrogen is the most potent. Truly, the objections to this theory are so obvious, that it appears little more feasible than the cause assigned by the Puharrees of the hills, who, as the Professor tells us, attribute the disease to "a demoniac seizure, and believe that the evil spirit springs suddenly upon the unwary from dark thickets, and shady fountains and water courses especially." We are further informed, that nearly all cases are fatal with them, as may readily be credited, "the treatment being to get five or six strong lusty fellows to shake out the devil, and frighten him by loud cries"! It is not necessary, however, to pursue this part of the subject further, as Dr. Bushnan deals effectively and well with theories of this stamp, although he passes by almost without remark the doctrine of contagion, and the question of quarantine.

Nearly one-half of the entire volume is occupied with details relative to

the miserable condition of the dwellings of the poor, especially in London, extracted from the Report and Evidence of the Sanitary Commission of 1847, the Report made to the General Board of Health, established by the 11 and 12 Vic. c. 63; the reports of Dr. Gavin Milroy, and of the Registrar-General of Births, Deaths, and Marriages, and other sources, and illustrated by a number of elaborate statistical and meteorological tables. Enough, and perhaps much more than enough, is adduced to shew, that the mortality of epidemics falls heavily on that part of the population which is aggregated in large masses in insufficient space, and that amelioration in this respect is imperatively required. The harrowing details will be read with much interest, at all events, by those who have not been previously conversant with those sources from which Dr. Bushnan chiefly derives his information.

The seventh chapter, which must have been compiled at a very considerable expenditure of labour, exhibits in a tabular form, extending over several pages, the various modes of treatment published in 1848-9. We think, in justice to the profession to which he belongs, Dr. Bushnan ought to have stated that a large number of those whom he cites were young and inexperienced, and restless scribblers, rather than practitioners of medicine. Cannabine, the plant Zhorabia, the wet sheet, extreme cold, dusting with lime (or white-washing), bisulphuret of carbon, placing the patient in hot sheets, or over the boilers of steam engines, injection of water into the bladder, chlorate of gold, tincture of rye and tannin, are the greatest novelties in this strange catalogue.

On the whole, however, the sketch of Dr. Bushnan is a valuable contribution to medical literature, as bringing up to the present time our history of the disease, from the point where it was necessarily left incomplete in the treatises of Parkes, Knox, and other writers, published early in last year, before the epidemic had completely run its course.

The style of the author, although occasionally a little inflated, is, generally, fluent and perspicuous. He possesses a desirable facility of lucidly stating elaborate statistical deductions. Were we disposed to be fastidious, we might object, that in a strictly professional work, the poetical quotations, though perhaps appropriate, are rather too numerous, as Horace, Juvenal, Shakespeare, Byron, Heber, La Fontaine, and several others, are each made to contribute his quota; but this blemish, in point of taste, is not sufficiently glaring to justify severe criticism, even if it were not counterbalanced by the more valuable qualities of the work. We thank Dr. Bushnan for his little volume.

The Principles of Surgery. By John A. Orr, A.B., F.R.C.S.I.; one of the Surgeons of the City of Dublin Hospital. pp. 496. Dublin: 1850.

This contribution to surgical science by one of our brethren across the channel, is a highly creditable production. Without aiming at originality, it gives a very fair abstract of the state of surgery in the present day: the style is terse and luminous, and the practical precepts are sound and judicious. At the end of every chapter, reference is made to the sources from which the author has derived his information, or to which he deems it advisable to refer the reader for fuller particulars upon each subject than a manual can comprise. We are by no means opposed to works like the present, which give, in a condensed form, the subject-matter of innumerable treatises and monographs; for we consider that they tend most materially to smooth the path of the student, whilst they are hardly less useful to the practitioner engaged in the active duties of his profession, who may resort to such books in order to refresh his mind with the principles of medical and surgical science. The best sources have evidently been consulted by Mr. Orr in the composition of the present volume, as the numerous references at the end of the chapters, and the soundness of the principles inculcated, abundantly testify.

A Practical Synopsis of the Diseases of the Chest and Air-Passages, with a Review of the several Climates recommended in these Affections. By James Bright, M.D. pp. 271. London: 1850.

The author of this work informs us in his preface, that his object in writing it is to submit to his professional brethren the results of his experience upon the best means of alleviating the diseases of the chest. We are accordingly informed in the first page, that "the chest is separated from the head by the neck, and from the abdomen by the diaphragm. It is composed of thirty-seven bones, namely, twelve dorsal vertebræ, twenty-four ribs, and the breast-bone or sternum. The posterior wall of the chest, concave from above downwards, is formed by the bodies of the twelve dorsal vertebræ and the posterior ends of the ribs," etc., etc. The whole work is full of the same kind of information for the benefit of the author's professional brethren; and we have in vain endeavoured to discover any views or opinions which have not been repeatedly offered to the notice of the profession. We must, however, do the author the justice to state, that although the work contains nothing new or important, it offers nothing objectionable.

New and Successful Treatment of Febrile, and other Diseases, through the medium of the Cutaneous Surface. By William Taylor, Surgeon to the Clerkenwell Infirmary. pp. 170. London: 1850.

In our last number, p. 865, we favourably noticed Dr. Schneeman's plan of inunction in scarlatina. The author of the work before us states, that he has followed a method substantially the same, for twelve years, in the treatment of *all* febrile diseases. He states that, "from 1837 to 1849, between two and three hundred cases of fever occurred in the Clerkenwell Infirmary, without a single death in idiopathic cases; whereas in 1836 alone (before his plan of treatment was adopted), twelve patients died of typhus in one month." This is rather a loose way of giving medical statistics. There is an important difference between *two* and *three* hundred cases; and there may be other ways of explaining the extraordinary mortality of one month, than by attributing it to the author's treatment not having then been in use. On the other hand, the subsequent success may not have been wholly owing to its employment. We all know how much the gravity of one epidemic differs from that of another. We are decidedly favourable to the general principles on which the author's treatment is based; but we could have wished that his treatise had been more elaborated, and more statistically complete in its account of his own experience. The subject is deserving of more careful and extended clinical investigation.

The book before us consists of an introduction; nine short chapters; and some concluding remarks

In *the introduction* we learn how the author made his discovery; and also that the use of greasy frictions belongs to antiquity. The substances used for inunction were various; but Mr. Taylor "eventually mixed lard and suet in equal proportions, melted them carefully over a slow fire (or a water bath), and this combination having acquired about the consistence of common tallow, was, on extensive trial, found to answer every requisite. No mixed ointment that liquefies at a temperature below that of the blood, being equal to it" (p. 7).

The First Chapter is on the anatomy and physiology of the skin.

The Second Chapter treats of the connexion between the functions of the skin and fever.

The other Chapters describe the application of the inunction treatment to typhus, measles, dropsy, phthisis, insanity, delirium tremens, and hydrocephalus.

CLASSIFIED CATALOGUE OF THE PAPERS WHICH HAVE APPEARED IN THE BRITISH AND FOREIGN MEDICAL PERIODICALS FROM JANUARY 1849.

CHAPTER IV.

ANATOMY AND PHYSIOLOGY.

BRITISH AND AMERICAN JOURNALS, FROM JANUARY 1849 TO JUNE 1850.

BY ALEXANDER HENRY, M.D.

The following Journals are referred to in this and the succeeding Chapters.

Philosophical Transactions	Phil. Trans.
Medico-Chirurgical Transactions	Med.-Chir. Trans.
British and Foreign Medico-Chirurg. Review.	B. and F. Med.-Chir. Rev.
London Journal of Medicine	Lond. Journ. of Med.
Lancet	Lancet.
Medical Times	Med. Times.
Medical Gazette	Med. Gaz.
Journal of Psychological Medicine	Psych. Journ.
Edinburgh Medical and Surgical Journal ...	Edin. Med. and Surg. J.
Monthly Journal of Medical Science	Edin. Month. Journ.
Goodsir's Annals of Anatomy and Physiology	Goodsir's Annals.
Dublin Quarterly Journal	Dub. Quart. J.
Dublin Medical Press	Dub. Med. P.
American Journal of Medical Science	Amer. Journ. of Med. Sc.

GENERAL ANATOMY.

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Bone, Purkinjean Corpuscles in, Development of. Leidy (Joseph). Amer. Journ. of Med. Sc., April, 1849, vol. xvii, N. S., p. 536. Abs. in Lond. Journ. of Med., June 1849, vol. i, p. 568. Occipital and Superior Maxillary of African Cranium. Neill (John). Amer. Journ. of Med. Sc., Jan. 1850, vol. xix, N. S., p. 78. Intermaxillary in Human Embryo. Leidy (Joseph). *Ibid.*, April 1849, vol. xvii, N. S., p. 537.

Makrocephali of Kertsch in the Krimea. Rathke (H.) Edin. Med. and Surg. J., Oct. 1849, vol. lxxii, p. 339; from Zeitschrift für Physiologie von Tiedemann und Treviranus, band v, heft 1.

Articular Cartilage, Intimate Structure and History of. Leidy (Joseph). Amer. Journ of Med. Sc., April 1849, vol. xvii, N. S., p. 277. Abs. in Lond. Journ. of Med., June 1849, vol. i, p. 561. Structure of Synovial Membrane of. Toynbee (Joseph). Lond. Journ. of Med., March 1849, vol. i, p. 217. Swayne (J. G.) Prov. M. and S. Journ., June 27, 1849, p. 341.

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ORGANS OF DIGESTION.

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CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

ANATOMY AND PHYSIOLOGY.

MR. H. GRAY ON THE DEVELOPMENT OF THE RETINA AND OPTIC NERVE.

The following observations are intended to demonstrate the evolution and mode of development of the Retina in the embryo chick, and they will, I think, confirm in a most striking manner the account that has been given of the structure of this part by Mr. Bowman, in his Lectures on the Anatomy of the Eye.

Development of the Retina. It is not until the thirty-third hour of the incubation of the chick, that there is any indication of the evolution of the Retina or of the rudimentary eye. At the thirty-firsth our, the cephalic extremity of the embryo is indicated by a slight dilatation, but no protrusion can be observed in the situation where the eye is to be formed. At the thirty-third hour, there is, on each side of the cephalic extremity, a protrusion of its walls. At the thirty-sixth hour, this has become elongated and protruded outwards, presenting a somewhat dilated end, and being slightly constricted at its connexion with the cerebral cell from which it arises. The whole embryo is now enlarged, and there is a distinct division of the brain into its several primitive cells ; this protrusion is the first distinct indication of the mode of development of the Retina. In a chick, examined at the forty-sixth hour. from the cerebral aspect, the future brain consisted of several cells ; the anterior, which was the largest, corresponded to the cerebral lobes ; the middle, smaller in size, to the future optic lobes ; and the posterior, the smallest, but most elongated, to the medulla oblongata. From the most anterior one, there arose a protrusion on each side, having a somewhat dilated extremity : this protrusion I will call the optic vesicle. The cavity of the cerebral cell, from which it arose, was very distinct, and its wall clear and pellucid, appearing to communicate with the optic vesicle, which was also hollow.

As the cavity of the cerebral cell passed outwards into the optic vesicles, it became less distinct, the wall of the vesicle being darkly granular, whilst the cavity in the cerebral cell itself was distinctly seen, from the thinness of its wall on its ventral aspect. If the embryo be examined from its dorsal surface (its natural position in the egg), the cerebral cell presents an external convex surface, whilst, projecting from each side, are seen the optic vesicles. The cavity of the cell, and its communication with the optic vesicle, cannot on this surface be distinctly demonstrated, on account of its wall being thicker than on the ventral side. The optic vesicle is bounded externally by a well-defined line, which lines the outer surface of the protrusion, and seems to be connected with the envelopes of the cerebral mass ; this is again bounded by the tegumentary layer of the embryo. When examined with a high magnifying power, the vesicle presented a pale granular texture without any indication of cellular structure. This description of the origin of the Retina, although confirmed by similar observations, described by Baer in the *Encyclopédie Anatomique*, tom. viii., is not in accordance with that of Wagner and Huschke. From many observations, I could never see what these observers have described ; and my conclusions regarding the origin of the Retina would seem to be confirmed by the coincidence of my observations with those of Baer. On examining a chick at the fifty-fifth hour of incubation, the cavity, in the anterior cerebral cell, was much less apparent ; the walls of the cell also now not only projected upwards but laterally, so as partly to cover the inner portion of the protruded optic vesicle, which at the

second day was so distinctly seen ; the head had also become more curved, which rendered a good examination of the eye somewhat difficult. On obtaining a view from above downwards, the embryo lying on its ventral surface, the outer portion of the protruded vesicle was distinctly seen, bounded by a clear defined inner border and an outer paler one ; the dark inner one was lost in the dark granular mass, which, by its circular form, indicated the rudimentary eye ; the outer layer was the external tegumentary membrane of the embryo. At the sixty-second hour, the optic vesicle appears to be situated between the anterior and middle cerebral cells ; this, I believe, depends on the great increase of development of these cells, and the curved form which the head now assumes, making its apparent origin to be from both, as stated by Wagner. On carefully examining it, the exterior dark line was beautifully defined all around, and presented the appearance of an outer covering to the eyeball ; in this apparent cavity was seen a pyriform vesicle, the future Retina, presenting a distinct outline, except at its inner side, where it became constricted and of a tubular form, and, to all appearance was continuous with the cerebral mass ; this constricted portion, the tubular end, I suppose to be the optic nerve, the dilated portion the Retina. Internal to the Retina was the circular crystalline lens, with its central but indistinct nucleus. Huschke describes the capsule of the lens as being an inverted portion of the common integument, which pushes inwards the dilated end of the optic vesicle, and thus forms a double layer ; the outer one he describes as Jacob's membrane, the inner inverted one the true Retina. In order to ascertain the correctness of this statement, I examined the eye at four successive periods between the second and third days, at the forty-eighth, fifty-fifth, sixty-second and seventy-second hours. I examined the embryos laterally, and also on their dorsal and ventral aspects ; and if the lens had been an inversion of the integument pressing in the dilated end of the optic vesicle, both the latter positions would have been most favourable for demonstrating it. The lens is, however, formed in quite a different manner ; it is first seen as a rather ill-defined granular mass in the cavity of the vesicle itself, containing in its centre a nucleus : this is seen on the first half of the third day. On the third day, it becomes more distinct, a well-defined line now bounds its margin ; between the fourth and fifth days, the granules become darker and more aggregated towards the centre, leaving a space bounded by a dark outer line : this is now the capsule of the lens, the inner one the bounding margin of the lens itself. Nor could I ever see satisfactorily any doubling-in of the Retina so as to form two layers, for in no position that I put the embryo, in each of the several examinations that I made, could I ever detect but a single layer ; and besides, as I shall show hereafter, Jacob's membrane is not developed until a much later period. Bischoff, on this point, says, " Je dois avouer qu'il m'a été impossible même chez de très jeunes embryons de chien, de lapin, et de rat, d'apercevoir sur la face antérieure de l'œil aucune trace d'une semblable intromission des téguments extérieurs, quoique dans certains cas, je sois resté incertain de savoir s'il existait déjà une capsule cristalline et un cristallin."[1]

At the seventieth hour, the circular outline of the eyeball has become quite distinct externally, and the line may also be traced internally, where previously it was only indicated by the dark circular granular mass, the forming eyeball. The lens is also more distinctly seen, bounded by its well-defined circular border, indicating its forming capsule, and the nucleus in its centre is plainly visible. When examined on its under surface, the original protrusion is seen to have become still more pyriform in shape and more constricted at its inner part, so that the more dilated portion now clearly resembles the future Retina, the constricted and tubular portion the optic nerve ; the more gradual contraction of this protrusion and separation

[1] Anatomie Encyclopédie, tom. viii, p. 324.

of it from the cerebral mass is also now more clearly seen. The cavity, which on the second day existed in the cerebral cell, and communicated with the protrusion, is now closed in, with the exception of a distinct fissure, which, commencing by curved borders at the margin of the lens, is continued inwards in the direction of the cerebral mass through the tubular portion of the protrusion.

The fissure seems connected (as Bischoff also supposes) with the separation which is effected between the ocular vesicle and the pedicle by which it is connected with the cerebral cell, the fissure at first being wide, and extending as far as the anterior part of the eye, at its inferior and inner side ; but, as the tubular portion of the protrusion becomes more solidified and converted into the true optic nerve, the fissure becomes much narrowed. No doubt this is analogous to the fissure which exists permanently in the Retina and optic nerve in fishes, as is seen in the cod. In the turtle the fissure exists in the nerve, though not in the Retina ; whilst in birds it appears to be the same slit which is here described, through which the pecten gains admission into the interior of the eye.

On the first half of the fourth day, the whole organ seemed increased in size : the exterior lamina was distinctly continuous all round, of a dark granular texture ; the second layer, the Retina, presented a different appearance to what was seen on the third day. It had become more spherical in shape and increased in size ; it now appeared to commence at the margin of the lens, which was situated at the more anterior part of the eye ; it could not be traced around it, as in some of the preceding observations, but only overlapped it slightly by a thin beveled border, so that it appeared, that the most external part of the original protruded vesicle had become absorbed to complete the formation of this rapidly developing membrane. The tubular portion of the original protrusion (the optic nerve), from the great development of the cerebral mass, was hidden from view.

On the fourth day, the eye had become more spherical in form. The outer envelope was distinct, and darkly granular ; it appeared now to terminate at the edge of the lens, whilst a paler line could be traced over this body,—an evident indication of the formation of the sclerotic and cornea. The Retina was now less distinctly marked, on account of the dark granular tinge beneath the outer envelope ; from the formation of the pigment in the epithelial cells of the choroid, it could now only be traced to the edge of the lens, not overlapping it as in the last examination. A distinct fissure was still perceptible on the under surface.

On the fifth day, the eye had greatly increased in size ; and, along its under surface, the fissure was seen running, from its anterior part at the margin of the lens, to a line which bordered the back part of the sclerotic ; the capsule of the lens was distinctly formed, and separate from the lens itself. Both optic nerves were seen : they were tubular in form, and presented a pale granular appearance ; they passed inwards, in the direction of the under surface of the corpora quadrigemina ; but they were not united together in the chiasma until the seventh day. At this period, on making a vertical section of the organ, the Retina was, with the naked eye, distinctly observed to arise from the margin of the lens, and could be detached from the other membranes as a perfectly distinct and separate layer.

From these observations it is seen, that the Retina is originally a protrusion from the anterior cerebral cell, being hollow, and communicating with its cavity ; that, as the progressive development of the brain takes place, the optic vesicle becomes more separated from its parent cell, and assumes a pyriform shape, presenting a dilated extremity (the future Retina), and a tubular portion (the optic nerve). In progress of development, a fissure is observed on its under surface, which is evidently connected with the separation which is effected between the ocular vesicle and the tubular pedicle (the optic nerve), which connects it with the cerebral cell. As this tubular pro-

longation becomes solidified, so as to form the optic nerve, no communication can be traced between the optic vesicle and the cavity from which it is an offset. By degrees, the spherical end of the protrusion is absorbed, and the Retina, now fully formed, becomes attached to the margin of the lens, having previously completely surrounded that body. The optic nerve can then be seen not only to be connected to the anterior cerebral cell, but, uniting with its fellow at the under surface of the optic lobes, is seen partly to terminate in those bodies.

Retina of the Chick at the Eighth Day of Incubation. The Retina may, at this period, be distinctly separated, as a thin transparent layer from the other membranes. Its choroidal surface appears to be composed of a closely-aggregated mass of globular nuclei; these bodies are about the size of the red corpuscles of the blood, and form about one-half of the entire thickness of the membrane. They apparently correspond to the 'agglomerated granules', mentioned by Bowman as forming a considerable portion of the membrane in the normal state: they are highly refractive, and of a slight yellow tinge. The deep surface of the membrane consists of some fine granular matter, and a mass of pale and exceedingly delicate nucleated cells, precisely similar to those surrounding the meshes of the fibrous lamina in the normal structure of the membrane. No trace, at this period, exists of either the membrana Jacobi, or the fibrous lamina of the Retina.

Development of the Membrana Jacobi. Between the thirteenth and fourteenth days, the choroidal surface of the Retina presents an exceedingly fine, pale, granular stratum, which covers in the 'agglomerated granular mass' beneath. On the fifteenth day, numerous exceedingly minute and highly-refractive yellowish granules are imbedded in it; they vary in size, from the 5000th to the 8000th part of an inch in diameter, and around some of these a fine delicate cell-wall can be traced. If a good view can now be obtained, this surface presents the appearance of a delicate epithelial layer. This I believe to be the first stage in the development of Jacob's Membrane; for, on the eighteenth day, the cells, which were previously of a circular form, have now become elongated,—some being of an oval shape, whilst in others the almost perfect rod-like body is formed. They now lie in a slightly imbricated manner, and their nuclei, which are of a bright yellow colour, are placed at the apices of the rods: in some cases, however, they occupy the middle of these bodies; their deep ends are larger than their choroidal ends, and are strongly attached by this surface to the 'agglomerated granular layer' beneath. So intimate is their connexion, that it is difficult to get a good view of a single rod, probably on account of their perfect separation from this layer not having yet taken place. On the twenty-first day, Jacob's Membrane is similar to what is seen in the full-grown bird: the rods are now closely packed together, standing perpendicularly upwards, and all of an elongated cylindrical form, their tips being occupied by the brilliant yellow bodies before noticed.

Development of the Fibrous Lamina. The first trace of the Fibrous Lamina is seen between the fourteenth and fifteenth days. On examining the deep surface of the Retina at this period, it is seen to be composed of a very fine pale granular lamina, marked by numerous faint longitudinal striæ: on the eighteenth, this lamina, when separated from the rest of the membrane, is composed of numerous fibrillated bundles, which, interlacing with each other, form numerous meshes, in which are deposited the gray nucleated vesicles, which are seen as early as the eighth day. On the twenty-first day, this lamina presents the same structure as is found in the full-grown bird.

The preceding observations can, I think, be applied in explanation of some lately disputed points in connexion with the anatomy and physiology of the Retina and Optic Nerve.

The Retina has been seen to arise as a protrusion from the cells forming the future brain. Bowman states the vesicular layer of the Retina to be analogous to the vesicular layer of the hemisphere of the brain, whilst Henle, and other anatomists of great note, consider the elements of this layer to be more analogous to epithelium. From the circumstance of the Retina arising, as it undoubtedly does, from the cerebral cells, being in fact part of them and performing a similar function, we have, I think, a great proof of the similarity in the structure of these two parts. There is another point also, which proves that the opinion of some modern anatomists is incorrect, in stating that none of the fibres of the optic nerve can be traced to the optic thalamus. The origin of the retina is from the anterior cerebral cell, and, at a future period, the optic nerve can be traced uniting with its fellow of the opposite side beneath the optic lobes. It is in the anterior cerebral cell that the thalamus is subsequently formed, which makes it exceedingly probable that some of the fibres of the optic nerve are connected with it, although the greater majority may be traced to the optic lobes.

These facts are of some importance, and prove how deductions, formed from microscopic embryology, may be applied to confirm dissections or microscopic investigations made on the same parts in the mature animal. [Abridged from *Philosophical Transactions*, part i, 1850.]

MR. H. GRAY ON THE DEVELOPMENT OF THE MEMBRANOUS LABYRINTH AND AUDITORY NERVE.

The essential part of the Membranous Labyrinth and Auditory Nerve consists, like the retina, of a fibrous lamina formed of the terminal axes, cylinders of the nerve tubules, or of terminal loops of nerves, which are in intimate relation with a layer of dark and closely-set nucleated cells, not unlike those found lying between the meshes of the fibrous lamina of the retina ; like it also, it may be regarded as a protruded portion of the brain, modified somewhat in its texture, and connected with an appropriate apparatus, which receives and transmits its peculiar impressions. The following observations are intended to demonstrate the mode of development of this membrane ; and they not only confirm the description given of the structure of this part, but show the striking analogy which exists between it and the retinal expansion.

At present, two opinions exist regarding the evolution of the ear-bulb. It is stated by Baer, that it arises soon after the eye, in the form of a tubular prolongation of the brain, communicating with the cavity of the fourth ventricle, its peripheral extremity forming a vesicular dilatation, which is gradually separated from the brain. Into this vesicle, which is the analogue of the labyrinth, there is protruded inwards a reflection of the integument, which forms all the accessory parts of the organ of hearing. Huschke's account is entirely different ; he says that the Membranous Labyrinth does not arise from the brain, but is originally a blind sac of the skin with an excretory duct, which, gradually contracting, is at last separated from the common integument, and exists as a separate sac beneath it. The following observations coincide partly with the description given by Baer ; at the same time, I shall state some facts which, I believe, have not been previously noticed.

Development of the Auditory Nerve. In the embryo chick at the fiftieth hour, the medulla oblongata presented, above, a large open shallow cavity, the analogue of the fourth ventricle. At the cephalic extremity, it communicated with the optic lobes and the anterior cerebral cell, by a small circular orifice. From the central part of the wall of this cavity, and exactly opposite to the second branchial cleft, the first rudiment of the auditory sac was visible, in the form of a small protruded vesicle of a somewhat flattened circular shape ; this vesicle was hollow, clear, and pellucid, and communicated with the ventricular cavity by a small circular orifice. This communication was

most distinctly seen on examining the embryo from the dorsal aspect. In order to satisfy myself of the correctness of this observation, and to test the accuracy of Huschke's statement, I examined numerous embryos every second hour, from the thirty-sixth hour to the time when the above appearances were observed, but in none could I detect a protrusion of the tegumentary layer in that situation ; and, coinciding as my observations do with those of Baer as regards the origin of this membrane, they justify, I think, the conclusions which are above stated.

At the fifty-sixth hour, the auditory vesicle occupies its usual position ; it has become, however, increased in size, and has assumed a pyriform shape, so that now it presents a narrow contracted tubular portion, the rudiment of the Auditory Nerve, and a dilated spherical extremity, the auditory sac, or rudimentary vestibule. This latter portion projects into and becomes encased by the muscular and tegumentary layers of the embryo, forming a distinctly marked projection beneath the integument ; the vesicle itself has become darkly granular and more opaque, but the cavity in its interior is still distinctly seen communicating with the ventricular cavity, through the tubular prolongation of the vesicle (the Auditory Nerve) ; the aperture of communication is however much smaller, having become more contracted, and this contraction apparently increases as the separation between the auditory vesicle and its parent cell takes place. At the sixty-fifth hour, the ear-bulb has increased considerably in size, and a more marked separation is now seen to exist between the Auditory Nerve and the expanded vestibular sac ; the latter has assumed an oval shape, and is now directed slightly backwards, the cavity in its interior still existing ; but the Auditory Nerve has become now quite solidified, so that no communication exists at this period between it and the ventricular cavity. From the description which I have already given, a marked similarity may be observed between the origin of this membrane, and that of the retina and optic nerve ; these parts arise in both cases as a protruded portion of the cerebral mass, being hollow, and communicating with the cavity of the parent cell ; in process of time, a gradual separation takes place between them and the parts from which they arise ; they then assume a pyriform shape, but still commmunicate with the cerebral cavity ; as, however, the nerve becomes solidified and more fully formed, and the separation between them is more fully effected, then no communication can be traced between the two cavities. It is in this stage of the development of the auditory apparatus in the bird, that a remarkable similarity is to be observed between it and the normal condition of the same part in some of the lower animals. There are in fact now formed the two elementary portions of this apparatus, the Auditory Nerve and its vesicular bulb (the analogue of the vestibular sac). Such is the simple condition of this organ in the crustacea and in the cephalopod mollusks.

Development of the Membranous Lining of the Semicircular Canals. At the seventy-second hour, the vestibular sac has become more distinctly separated from the cavity from which it originated, but is connected with it by the auditory nerve, which is fully formed and of large size; the vesicle is still quite hollow, and contains a thin limpid fluid ; but its oval form is lost, from a distinct contraction of its apparent entire circumference, which is observed about its centre ; this contraction is seen to exist both on the outer and also on the inner wall, and is the first indication of the separation of the vestibule from the membranous semicircular canals, which are ultimately formed from the terminal portion of the vesicle. At the eighty-second hour, the contraction is observed to have become more marked, so as partially to subdivide the vestibular sac into two unequal portions ; the lower one, that connected with the auditory nerve, is the future vestibule, the upper terminal one being developed into the semicircular canals ; the cavity still exists in the interior of the vesicle, and the auditory nerve has increased in size. At the close of the fourth day, the terminal bulbous portion of the ori-

ginal vestibular sac has become very considerably enlarged, and of an oval elongated form; the contraction originally existing and separating it from the vestibule itself has increased very considerably, so that now a well-marked separation is seen to exist, although both cavities communicate with each other. A slight depression or shallow pit is now observed to exist at the end of the terminal vesicle, which soon becomes very distinct. This, I believe, indicates the first rudiment of one of the semicircular canals; no trace of the folding-in or depression of the integument in this situation could be observed.

About the sixth day, this depression is more marked, and it is apparently from the amalgamation of this reflected portion and the inner wall of the vesicle with each other, that the membranous semicircular canals are formed. At first they appear to retain the same diameter throughout, but between the twelfth and thirteenth days they become somewhat contracted in parts, leaving some portions of their original diameter: it is these that apparently ultimately form the ampullæ. At about the same period, a cartilaginous nidus is deposited on the outer side of the membranous labyrinth, which is soon developed into the various parts of the osseous labyrinth: at the same time also a small quantity of calcareous matter is deposited in the vestibular sac. It is interesting to observe, that the membranous labyrinth, between the eighth and thirteenth days, like the retinal expansion of the same period, consists of a distinct but very delicate fibrous mesh, in the spaces between which are deposited a quantity of granular matter and numerous nucleated cells, its exterior surface being composed of a dense mass of nuclei, almost precisely analogous to the "agglomerated granules" which form so large a portion of the entire substance of the retina.

From the preceding observations, the following conclusions may be drawn. The Membranous Labyrinth, like the retina, is a protruded portion of the brain, being hollow and communicating with the ventricular cavity from which it arises. As the progressive development of the brain proceeds, the auditory sac becomes more elongated and of a pyriform shape, the dilated portion being analogous to the vestibule, the contracted tubular portion to the Auditory Nerve; this subsequently becomes solid, and the cavity in the vestibule does not then communicate with the ventricle, from the wall of which it is an offset. This representative of the normal condition of the organ in some of the lower animals, now takes on a higher form of development; for the membranous semicircular canals are now added to the vestibule, being formed by a contraction, and, subsequently, a folding inwards and union of a portion of the walls of the vesicle itself; lastly, the walls of these canals becoming in parts contracted, the dilated ampullæ are formed. [*Philosophical Transactions*, Part 1, 1850.]

HORN ON THE TERMINATION IN LOOPS OF THE OLFACTORY NERVES.

Like the auditory and optic nerves, the Olfactory Nerve forms loops at its peripheral extremity. This can be observed in the nasal mucous membrane of the frog. If a piece of this be removed, with a part of the trunk of the Olfactory Nerve adhering to it, and viewed between two flat pieces of glass with a magnifying power of 216 or 300 diameters, the Olfactory Nerve is observed to divide into twigs; these, at their peripheral extremity, partly form club-shaped figures, and partly are extended into large segments of a circle. On the periphery, they are looped, and run back to the original stem. Stellated pigment-cells and ciliated epithelium are laid over the expanded nerve-fibres. A few twigs of other nerves, of wider diameter, are also found imbedded here and there in the mucous membrane. These have the properties of the finer cerebral nerves. [*Müller's Archiv.*, 1850, Heft. 2, p. 74.]

CALCAREOUS TUMOUR OF CRANIUM IN A CHILD: RELATION OF DEVELOPING FUNCTION OF THE CEREBELLUM TO OSSIFICATION.

In the *Medical Times* for August 17, 1850, Mr. R. F. Battye, of Pimlico, relates the case of a child, 12½ months old, who had a tumour on the left side of the head, immediately below the parietal eminence, and extending to the base of the mastoid process, and to within an inch of the occipital protuberance; and anteriorly to about the centre of the squamous portion of the temporal bone. It was at first soft and fluctuating; but earthy matter was gradually deposited, and, on the ninth day of being observed, it was converted into a solid calcareous mass. The child had experienced no symptoms of any importance during its progress.

Mr. Battye takes the opportunity, afforded him by this case, to make some observations on the function of the Cerebellum, as the seat of *consensual volitionary movements*. He seems, however, not to have been aware that this theory was long ago enunciated by Rolando, Flourens, Longet, and other physiologists. He explains the occurrence of the tumour, by supposing, that when a child begins to gain the power of combining muscular movements, the Cerebellum becomes enlarged: as a consequence, there is increased ossification, and vascularity of the periosteum, which may, under certain circumstances, take on an inflammatory action; and that this happened in the case related.

PRACTICE OF MEDICINE AND PATHOLOGY.

CHLOROFORM: ITS USES IN VARIOUS DISEASES. NO. II.

(Continued from Vol. I, 1849, p. 361.)

Asthma. Mr. J. L. Beardsall (*Lancet*, March 31, 1849) relates three cases of asthma successfully treated by Chloroform. The first case was that of a clergyman, aged 37, who had been suffering for six years from asthma. On the 20th of June, 1848, when he had been suffering from difficulty of breathing for three weeks, a drachm of Chloroform was administered by inhalation. In five minutes, the breathing was much relieved. Half a drachm more of Chloroform was now administered. On the 22nd, he reported his breathing so much improved, as to enable him to walk up steep hills without being distressed. On the 26th, the difficulty of breathing having returned, Chloroform was again administered as before: and, on July 17, his breathing was reported to be most satisfactory. The second case was that of a woman, aged 34, who had been subject to asthma as long as she could remember, which had lately only been relieved by morphia. The inhalation of a drachm of Chloroform, on each of two separate occasions, was attended with similar results to those mentioned in the last case. The third case was that of a gentleman, aged 21, who had been asthmatic for several years. Chloroform, in drachm doses, was twice inhaled, with marked relief. In all the cases, copious expectoration followed the administration of the remedy.

Cholera. At a meeting of the Royal Medical and Chirurgical Society, on Feb. 23, 1849 (*Lancet*, March 17, 1849), Dr. Baly said that, in his experience of cholera at Millbank Prison, "as a mere palliative of symptoms, Chloroform had been most beneficial. Administered by inhalation, it immediately relieved all pain and spasm, and sometimes, for a time, checked the vomiting. The comfort it in some cases afforded the patient was most remarkable." A similar result attended its use, in a case recorded by Dr. W. M. Fairbrother (*Lancet*, August 4, 1849). After about an ounce had been used, the full effect of anæsthesia was produced, and the cramps, which had been most severe, gradually subsided. The patient recovered. Dr. John Davies (*Lancet*, Sept. 22, 1849) recommends it, both in the premonitory diarrhœa, and in the collapsed stage, in doses of from five to fifteen minims, every

hour or two, in mucilage. One dose, he says, will frequently stop the diarrhœa and sickness.

The Camphor-chloroform mixture of Messrs. T. and H. Smith, of Edinburgh, (see *Lond. Journ. of Med.*, Jan. 1849, p. 102), has been also found productive of great benefit in cholera, as well as in the alleviation of intestinal spasmodic affections in general.

Convulsions (Puerperal). Mr. Turner (*Lancet*, Jan. 12, 1850) administered Chloroform in a case of post-partum convulsions, occurring in a primipara. The fits were prevented by its administration; and, on two or three occasions, when the Chloroform was omitted to be given, they returned. After its use had been persevered in, by using it as a preventive of the convulsions, for eight and a half hours, there was no recurrence of the fits.

In the *Medical Times* for March 23, 1850, a case of severe convulsions is related. They had come on during labour, and had continued, with undiminished severity, till the middle of the next day; the patient having had thirty-three confirmed attacks. No means having been effectual in allaying them, ten or twelve drops of Chloroform were applied to the nose on a piece of rag, immediately upon the appearance of rigidity of the lower extremities, which preceded the fits. The effect was the immediate alleviation of the general spasm, and the entire destruction of the contraction of the facial muscles: at length, the whole body was rendered perfectly passive, after a steady application of Chloroform for three hours and a half. The patient ultimately recovered. Mr. Norris communicated to the Edinburgh Obstetric Society (*Monthly Journ. of Med. Sc.*, May 1849), a case of a woman who suffered from convulsions during, and after parturition. In the last fit, Chloroform was administered with success.

Cynanche. A correspondent of the *Prov. Med. and Surg. Journal* for April 4, 1849, says that he has used Chloroform in the form of gargle, in cynanche, with good result. One drachm, to one ounce of distilled, or rain water, is the proportion for the gargle.

Delirium Tremens. Mr. G. Hyde (*Lancet*, June 9, 1849) relates the following case. Mr. B., aged 40, of plethoric habit, was attacked with delirium tremens, on June 3rd, 1849. He was treated with opium, morphia, tartar emetic, and spirits of wine, up to the morning of the 6th, when it was determined to administer Chloroform. About a drachm and a half was held to the nostrils on a sponge. Spasmodic respiration and violent plunging of the body were almost immediately produced; but he was soon in a state of anæsthesia. He remained to all appearance in a placid sleep for about eight minutes, then awoke, yawned, and looked about him inquisitively. After a few moments, he talked a little incoherently. He continued in a restless state, raving for about half an hour, and then fell into a quiet deep sleep, remained so for nearly fourteen hours, and awoke with clear and sound intellectual faculties. The case afterward progressed to recovery. In a case recorded by Dr. Selkirk, (*Lancet*, Dec. 15, 1849), opiates had been used for four days, without success. Chloroform was administered by inhalation. Violent convulsions of the whole body ensued, and continued for some seconds; gradually the muscular system relaxed, the head dropped on the pillow, and the patient slept almost uninterruptedly for twelve hours. The next day, he was nearly well.

Hydrophobia. Dr. S. Jackson (*Amer. Journ. of Med. Sciences*, April 1849) relates a case of hydrophobia occurring in a lady, aged thirty. Chloroform was inhaled, with the effect of relieving the spasms: it was also administered in the form of enema (two drachms with two scruples of Dover's powder in starch water). The Chloroform was inhaled whenever the spasms threatened to come on, with the effect of restraining them. The patient ultimately recovered; but the excision of the cicatrix of the wound which had been inflicted by a dog, also probably contributed to this result. In the same journal, Dr. Parkman gives a case, in which the inhalation of Chloroform

was unsuccessful, though anæsthesia was produced; and the patient rapidly sank. The *Edinburgh Monthly Journal* for August 1849, contains the following—"We have received from Dr. G. Smith, Bengal Horse Artillery, a strong testimony to the efficacy of this anæsthetic, in subduing the spasms and alleviating the sufferings of a boy affected with hydrophobia. The lad was kept alive rather more than two days; the spasms were much modified by the anæsthetic, and the impression left upon the practitioner's mind is, that the disease might ultimately have been subdued, had not his stock of Chloroform most unfortunately failed him, just when perseverance was most required. In the intervals between the administration of the Chloroform, the patient drank liquids most freely, to the extent of several pints, without any difficulty, and without any consequent recurrence of spasm." In a case of hydrophobia at Dalkeith, Chloroform was also administered without success.

Laryngismus Stridulus. In the *Lancet* for Sept. 1, 1849, Mr. W. J. Cox states, that he has found Chloroform and hydrocyanic acid pre-eminently useful in laryngismus stridulus. With regard to Chloroform, he says: "It is to be employed during the paroxysm. When the spasm of the glottis is passing into convulsion, the ingress of air nearly suspended, the head thrown rigidly back, the veins of the neck turgid, the face livid, the hands clenched, etc., and when, the usual remedies having failed in producing relaxation, danger of suffocation is imminent, a piece of lint dipped in Chloroform should be applied in a handkerchief over the mouth. In a few seconds, the muscles will be relaxed, the spasms will be over, and the little patient will breathe freely. The sudden effect is often almost magical."

Nephritic Colic. Dr. Stille (*Trans. Phil. Coll. of Physicians*, vol. ii) stated, that Dr. Bowditch, of Boston, related to him a case of nephritic colic, occurring in an individual who had previously suffered from several attacks. Chloroform was administered with the effect of inducing entire relief from the pain, without abolishing consciousness. The influence of the Chloroform was kept up for several hours, when, at length, the stone passed through the ureter.

Neuralgic Affections. Mr. F. G. Broxholme (*Lancet*, June 9, 1849) administered Chloroform to a young lady, aged thirteen years, suffering from quotidian hemicrania. The pain was confined to the parts within the cranium, and the paroxysms, which lasted from two and a half to three hours, were attended by intense vascular excitement. The pain would suddenly cease, and be followed by an attack of spasmodic dyspnœa, resembling asthma, and continue for about three-quarters of an hour. This having gradually subsided, was followed by sleep. Quinine was administered, and suspended the paroxysm for a day. The paroxysm having returned, apparently with greater intensity, Mr. Broxholme administered half a drachm of Chloroform by inhalation, the effect of which, in inducing quiet and repose, was instantaneous. She remained under its influence for a quarter of an hour. On the following day, there being a return of the paroxysm, but of less severity, the Chloroform was repeated; she remained under its influence three quarters of an hour. The patient had no return of the pain, and ultimately recovered, the use of quinine being continued. In another similar case, which would not yield to aperients and quinine, Mr. Broxholme employed Chloroform with similar results.

In the *Medical Times* for February 17, 1849, Mr. J. Hutchinson relates the case of a lady who had an attack of brow-ague, which was removed by quinine and change of air. About twelve months after, the disease again returned, on the day following her confinement. On the next morning, when a paroxysm was coming on, Mr. Hutchinson bathed the part with a few drops of Chloroform, and afterwards laid on it a cloth saturated with some. The application had the immediate effect of converting the pain from a throbbing to a benumbed sensation. The paroxysm was shorter and less intense.

On the two following days, the application was repeated when the pain threatened to return, after which the patient remained quite well.

The following case is related by Mr. C. B. Barrow (*Medical Times*, April 20, 1850). A delicate young lady, of nervo-lymphatic temperament, had been suffering from facial neuralgia for several days. The pain was excruciating, occupying the tract of the temporal and facial branches of the right facial nerve. It was somewhat of an intermittent character, and throbbing, but, for the most part, continuous. She took the citrate of quinine and iron, etc, but without any impression being made upon the disease. A few drops of Chloroform were applied to the part on a linen cloth. In this way, about thirty drops were used, the effect of which was almost instantaneous relief. The patient complained of a stinging, burning pain during its application, and for a moment could not bear it; but this passed off, and she has not had the slightest return of the neuralgia. She certainly continued her tonic treatment for some time. Such was the marked relief, that the patient entreated to have a few drops left with her, lest the pain should return. In the same Journal, for April 27th, Mr. W. E. C. Nourse states, that Mr. Wilde, of Dublin, has applied Chloroform in neuralgia with great success. His method is, not to put it upon linen, but upon a piece of spongio-piline coated externally with India-rubber, thus preventing evaporation, and confining its action more strictly and effectually to the part. When first applied, it causes a burning sensation, by no means pleasant; but this shortly subsides into rather an agreeable warmth, and the pain begins to dull in a few minutes, nearly or quite ceasing. The skin is much reddened by its use for a short time afterwards. There is no sort of objection to its employment in the case of the most delicate person; but it has the disadvantage of partially losing its effect on repetition, like all other local remedies in such cases. This can only be obviated by constantly alternating its use with something else, such as tincture of opium, or hyoscyamus in hot water, ʒj. to ℥j; lotions made with extract of conium or belladonna, smearing with extract of belladonna or veratrine ointment, or a morphia lotion, 2 grs. to ʒj. Ether might be tried in the same manner as Chloroform.

It is stated by Dr. Brainard (*N. W. Med. and Surg. Journ.*, Sept 1848, as quoted in *Amer. Journ. of Med. Sc.*, June 1850) that he has frequently found periodical neuralgia to resist quinine, but that it has readily yielded to Chloroform. He relates two cases of periodic facial neuralgia, in which the inhalation of Chloroform was attended by immediate and permanent cessation of the pain; and a case of irregular neuralgia, in which the use of this remedy, inhaled in doses of about twenty minims daily for two weeks, caused the attack daily to become milder, and at last to cease altogether. Dr. Isaac Hays (*Trans. Phil. Coll. of Phys.*, vol. ii) employed Chloroform to produce local anæsthesia, with the most happy effects, in the case of a gentleman, fifty years of age, who had long suffered from neuralgia of the foot, in which all the remedies that had been employed failed to produce relief. Dr. Hays found the patient in intense pain, which had deprived him of sleep the whole of the preceding night. Dr. Hays directed the affected parts to be enveloped with a pledget of lint, or a few folds of muslin, wet with Chloroform, and the whole to be covered with a portion of oiled silk, to prevent evaporation. On the next morning, he found him entirely free from pain, which did not return. Whether the relief was to be ascribed to the local anæsthesia produced by the Chloroform, or was to be considered as a mere coincidence, Dr. Hays did not pretend to decide.

Otalgia and Odontalgia. A correspondent of the *Prov. Med. and Surg. Journal* for April 4, 1849, says that he has constantly found relief to be afforded by Chloroform in these affections. In otitis, and in the painful rising of the teeth in children, before they are sufficiently near the surface to obtain any relief from lancing the gums, he has found the most pleasing effect. In the former case, he places a drop or two on some scraped lint,

and applies it to the ear or tooth ; in the latter, he rubs the gums with the finger moistened with the liquid.

Traumatic Tetanus. Dr. Selkirk (*Lancet*, Dec. 15, 1849) administered Chloroform by inhalation, from the fourteenth day of the disease, every six hours, in a case of traumatic tetanus. It acted as a prophylactic to spasmodic action : but its action was merely palliative, and the patient died on the twenty-second day of the disease. In the same Journal for Dec. 1st. an unsuccessful case is also related by Mr. Solly. Mr. S. G. Sloman (*Prov. Med. and Surg. Journal*, Sept. 5, 1849, relates a case of traumatic tetanus following laceration of the right ear, and some injury of the neck, in a man who had been run over by a cart. The tetanus set in fifteen days after the accident. On the fourth day, he had rigid spasm in every limb, and in the abdominal muscles, considerable opisthotonos, and trismus. Mr. Sloman administered one drachm of Chloroform on a handkerchief. The patient soon expressed himself as perfectly easy, then became delirious, and in a very short time quite unconscious, and slept soundly for two hours. When he awoke, the spasms began to return, and Chloroform was again administered with success : and was repeated in two and a half hours. After this, the Chloroform was repeated on several occasions during the next day : but it appeared to lose its effect in subduing the spasms, each time it was administered. Calomel and bimeconate of morphia were then given. The spasms after this became less frequent and intense, and the patient was, three weeks after, in a fair way of recovery. Dr. E. H. Clarke (*Amer. Journ. of Med. Sc.*, July 1849) relates the case of a man, aged 27, who had tetanus from a wound on the back of the thumb. Chloroform was administered by inhalation ; and the patient was kept uninterruptedly under its influence for twenty-five hours, during which period there was slight stertor, but not always total unconsciousness. After an interval of forty hours, the tetanic convulsions recommencing, inhalation was resumed, and continued for six hours. No perceptible ill effects followed this prolonged inhalation. The tetanic symptoms were immediately alleviated, and the patient recovered in a few days.

DR. A. KILGOUR ON THE TREATMENT OF CARDIAC DROPSY.

In a paper on Disease of the Heart, and the Dropsy following it, published in the *Monthly Journal of Medical Science* for September 1850, Dr. Alexander Kilgour makes the following remarks. In the treatment of Cardiac Dropsy, every practitioner has his favourite remedy, taken from the class chiefly of diuretics or purgatives, or both. Of the former, I have found the following combination the most efficient. ℞ Infusi Digitalis ʒiv ; Acetatis Potassæ ʒij ; Spiritûs Ætheris Nitrosi ʒij ; Aquæ Cassiæ ʒiss. Capiat cochleare magnum quartâ quâque horâ.

At last there comes an attack, in which this and other diuretics cease to act, and we must then fall back on purgatives. Of the latter, unquestionably the most powerful is elaterium. But there surely must be a very great diversity in the strength of this medicine. Some practitioners, from the days of Sydenham, and long before him, downwards, appear to have given it in the dose of two grains, or even more ; but I have found a single pill, according to the following formula, generally very powerful :—℞ Elaterii gr j : Extracti colocynthidis comp. ʒijss ; Extracti Hyoscyami gr. xij. M. Divide in pilulas xij. Capiat unam nocte maneque. The great objection to the elaterium is the intense sickness, even in this small dose, produced by it. Do the large doses produce less sickness than the smaller ? It may be so ; but, in the few instances in which I have tried large doses, the sickness was not less. Is there any mode by which this sickening property in this valuable medicine could be removed ?

It is the opinion of some, that the elaterium acts as a diuretic, as well as

a hydragogue cathartic. I remember, when in consultation with Dr. Adams, of Banchory, in a case of cardiac dropsy, having my attention called by him to a formula, where the elaterium was combined with a diuretic, which he had seen prescribed with very great success. It acted most powerfully by stool and urine (being composed of several of the most powerful of the diuretics, along with the elaterium) ; but I always found it to cause much and violent sickness. ℞ Extracti Elaterii, gr. ij ; Spiritus Ætheris Nitrosi ʒij ; Tincturæ Scillæ, Oxymellis Colchici, āā ʒss ; Syrupi Rhamni ʒi. M. Ft. Solutio. Capiat drachmam unam ex aquæ pauxillo, ter quaterve in die.

The combination of a bitter purgative with a saline one composed of the vegetable alkali and a vegetable acid, is, in my experience, much more efficient than any single purgative, or than a bitter with a salt formed of a mineral acid. The old compound powder of jalap is a well-known instance of a mixture of this kind, and is still one of our best purgatives in all dropsies where this class of medicines may be suitable. Ferriar used, as did also Home, a combination of half an ounce of the bitartrate of potass with two grains of gamboge. The infusion of senna with bitartrate of potass is also an old-fashioned and valuable remedy ; but the insolubility of the salt is an impediment to the efficiency of this formula. The senna infusion with tartrate of potass, or with the tartrate of potass and soda, is not liable to the same objection ; and I can testify to the advantage of the frequent use of this combination in cardiac disease having a tendency to dropsy, or in the dropsy itself attending that complaint.

The preparations of mercury have proven, no doubt, very successful in the treatment of this form of dropsy. Without wishing at all to detract from the merits of this most valuable agent, I must confess that, in chronic diseases of the heart, I do not like it, and cannot speak from experience of its efficacy in cardiac dropsy.

There comes a time, in the treatment of this complaint, when not only diuretics in all forms, but even purgatives, cease to remove or even to keep in check the anasarca. And this brings me to speak of another mode of treatment, which often proves palliative for a time,—viz., puncturing the lower extremities, and thereby draining off the fluid. This is not a new mode of treating the disease, though it has at various times fallen into unmerited neglect, and perhaps at the present time more so than at any other. I have not only often seen it of great benefit to a patient labouring under anasarca, no matter what the pathological cause of that disease, but have also in some cases seen it prove a cure, or, at any rate, that, after recourse had to it, internal medicines, which previously exerted no effect on the dropsical effusion, began to act, and the anasarca did not reappear. I do not, however, recommend it until all internal remedies have failed.

There are two modes in which the opening for draining off the fluid may be made,—either a puncture with the lancet, or with a good stout sewing needle. From a single puncture by the latter, a quantity of water will sometimes run out, so as to pass through the bed in a few hours, and require to be collected in vessels placed below it.

Heberden has evidently seen the danger attending this mode of treatment, though he does not say specifically in what it lies. The danger consists in the inflammation of an erysipelatous character, which not unfrequently takes place, extending up the limb, sometimes bringing on *sphacelation*, and for the most part ending in the death of the patient. But from one incision, and one, or at the most two punctures, in the proper place, erysipelas is not so apt to occur. The state of the skin—its low vitality during the existence of the dropsy under it—is singularly favourable for this form of inflammation : but a small clean cut, or one or two punctures,—and, if there be two, at a distance of not less than two inches from each other,—is not so likely to be followed by this as when, in the anxiety to get the water all off speedily, several have been made. Several writers recommend fomentations to be ap-

plied to the wound ; but I have often found the evaporating lotion very successful in keeping down any disposition in the part to erysipelas. Frequent ablution also with tepid water, and the removal of any cloths that may be soaked with the serum that has run out, will serve to prevent, so far, any irritation from being set up in the skin.

When the operation, even with the needle, has to be often repeated, as is sometimes the case, for the ease of the patient, especially in cardiac dropsy, there is sometimes a degree of inflammatory action set up in the cellular tissue, by which its interstices become obliterated, and the skin and it become quite closely adherent to the fascia below. I remember this occurring in a gentleman, who had been kept alive for some months by punctures, and who was at last dropsical everywhere, except below the knees, where the adherent and thickened integuments would not distend,—thus giving him, however, not a little pain. It has of late been recommended to have recourse to this treatment much earlier in the disease than was the custom ; and it has been said, that the chances of success from it are much greater, than when the patient's strength has been exhausted, and the vitality of the skin has been impaired by the long existence of a dropsical effusion. This reasoning is fair ; but the fluid does not flow so freely from the incisions, as when the areolar tissue has become more open and less resilient, from the long existent pressure of the effused serum. And, little as the danger of erysipelatous attacks may be from puncture of the skin in the early stage of anasarca, still there are few that will subject the patient to this chance of danger, until all the other more usual and often successful modes of treatment have been tried in vain.

As to the application of blisters to the anasarcous legs, with the view of draining off the serum—I would have scarcely thought it necessary to speak, believing that none, now-a-days, would adopt this practice ; but lately I met a very intelligent country practitioner, who told me that he occasionally had recourse to this application. The exciting of a vesication, by means of a blister, is much more likely to be followed by dangerous, than by curative effects in all anasarcous limbs, from whatever cause the dropsical effusion may have arisen.

FATAL OBSTRUCTION OF THE INTESTINAL CANAL FROM PERITONEAL BANDS. ARE SUCH BANDS SOMETIMES CONGENITAL?

The two following cases are reported by Mr. C. R. Thompson, in the *London Medical Gazette* (July 12, p. 61), as having recently occurred in St. Bartholomew's Hospital. We abridge the details.

Case I. Mary G., aged 20, was admitted 13th Nov., 1848. *Condition on Admission.* Pulse 120, small, and rather sharp ; tongue moist, coated on dorsum with very thick brown fur, clean at the edges ; bowels not opened for *seven* days ; slight vertigo and nausea when on her back ; abdomen distended, generally dull on percussion, intolerant of pressure, especially in the umbilical region.

History. Was a single woman in domestic service. She always enjoyed good health till a fortnight ago. when she got wet feet, which checked the catamenia. The next day she became very sick, vomited her food, and suffered from severe griping in the umbilical region. She entrusted herself to a druggist.

Treatment, etc , in Hospital. Venesection on 13th Nov. to 12 oz. Attempts by purgatives (administered by mouth and anus) to relieve the bowels. She died on the 18th, delirium and feculent vomiting having preceded death.

Post-mortem Appearances 65 hours after Death. *Abdomen.* Peritoneum generally rather vascular; about four ounces of slightly turbid fluid, containing flakes of lymph, in the sac; some deposits of puriform matter at the bottom of the pelvis. Small intestine greatly distended ; the peritoneal coat vascular and thickened ; a broad line of redness ran along the border of the

intestine where the coils lay in contact with each other; a few slight shreds of lymph, here and there, held the coils slightly together at their surfaces of contact. Large intestine pale, contracted, and nearly empty. The transverse portion of the colon was drawn down with the *right iliac region*, by a short narrow band proceeding from its lower border, and attached to the spine by means of the portion of mesentery corresponding to the last part of the small intestine. This band passed in front of the small intestine about an inch before its termination in the cæcum, compressing it against the spine, and constricting it so as to render it impervious. The portion of the colon, from which the band originated, was closely and rather firmly adherent to the constricted part of the small intestine, the thinner and more friable bands passing from one intestine to the other. The mesentery immediately surrounding the constricted part was inflamed, thickened, and matted around the intestine.

The entire length of the small intestine, as far as the constriction, was filled with liquid bilious matter, such as had been vomited during life. The mucous membrane was reddened and swollen in the neighbourhood of most of Peyer's patches, the individual glandulæ of which had burst, leaving spaces surrounded by a thickened border of mucous membrane. Each Peyer's patch thus presented a broad oval surface, the mucous membrane of which appeared worm-eaten, and as if irregularly removed by ulceration.

Here and there a swollen red solitary gland was seen. As the small intestine approached the seat of constriction, it became very vascular, and presented discoloured streaks and spots, as if from commencing sloughs. The piece of small intestine between the constriction and the cæcum was pale and contracted, and its mucous membrane irregularly ulcerated. Stomac distended with liquid bilious contents. Liver natural; gall-bladder di. tended with a quantity of thin dark bile; spleen natural; no morbid appearance of uterus or ovaries; kidneys large, heavy, and congested, but apparently of healthy structure.

Case II. Hannah R., aged 23, was admitted in the morning of the 7th Feb., 1850. *Condition on Admission.* Pulse from 140 to 150, very small, and thready; lips and tongue dry; respiration about 25, and natural; pain from the most gentle pressure on any part of the abdomen, but especially in the hypogastric and iliac regions; abdomen generally soft, except in the umbilical region, where it was rather tense; tympanitic resonance over the colon, and on the epigastrium, but marked dulness in the umbilical and hypogastric regions. The patient was restless, lay indifferently on either side, with the knees slightly drawn up. Occasionally she vomited a light coloured frothy fluid, of decidedly feculent odour, and resembling working yeast in appearance.

History. She was a delicate married woman, by trade a toy-painter. She had been confined four times. The last labour occurred five months ago, and was at the seventh month of utero-gestation. Since that time she had suffered frequently from troublesome constipation, for which she had been under medical care: during the last three months, the motions had been of unusually small calibre. Four days ago, the bowels were but very imperfectly opened after a three days' constipation. Since that time, she had had pain in the abdomen, constipation, and stercoraceous vomiting.

Treatment, etc. Two ounces of thick high-coloured urine were drawn off by the catheter. Copious enemata were thrown into the rectum by a tube eight or ten inches long. Wine, beef, and brandy were allowed *ad libitum;* but she died at 4 p.m. on the 8th, the day after admission.

Post-mortem Appearances 20 hours after Death. *Abdomen.* On exposing the peritoneal cavity, an extremely fœtid odour was perceptible. The parietal layer of the peritoneum was dotted with numerous small circular milk-white spots, more distinctly seen after exposure to the air; these spots were in the substance of the serous membrane, and not removeable except by

carefully dissecting it from the subjacent cellular tissue. The great omentum was gorged with dark blood, and looked, at its lower part, like a bag of large distended veins. On raising it, it was found to be adherent to the subjacent intestines by recent lymph; on separating these adhesions carefully, there appeared an aperture in a mesenteric vessel of considerable size, freely giving exit to blood, of which about half a pint had escaped into the pelvis, probably during life. The contiguous surfaces of the intestines, both large and small, were also agglutinated together, and to the parietes of the abdomen, by recent lymph, which was easily broken down by the handle of a knife. The greater part of the small intestine was of a deep red colour, very much distended in the upper part, and contracted below; about two feet of its length appeared more distended, and of a darker colour, than the rest of the intestine, almost black, or dark claret-coloured: in the middle of this dark part was an ash-coloured slough, about three inches long, with a well defined margin: the extremities of this congested fold of intestine were tightly girt by a firm band, passing from the surface of another portion of intestine of the mesentery at the point of constriction: this band was very strong, and firmly attached at both its extremities.

The contents of the strangulated portion of intestine gave to the finger the sensation of hardened fæcal matter, which was found to be caused, however, by the congestion and enlargement of the *valvulæ conniventes;* for, on opening the canal, it contained only about one point of dark fluid blood. The mucous membrane presented even a darker aspect than the exterior, and the internal surface of the ash-coloured spot was scarcely to be distinguished from the adjacent membrane: the mucous membrane was easily stripped off in various points. A considerable quantity of blood was also contained in the intestine, for a short distance above and below the stricture. The seat of constriction corresponded nearly to the umbilicus; but the coil of included intestine reached to the right lumbar region. It was a part of the lower end of the jejunum. Stomach healthy; also the large intestine, which contained, near the cæcal valve, a few hardened scybala. Pancreas and spleen of normal size and aspect. Liver showed some portal venous congestion: otherwise healthy. Kidneys rather large, but apparently normal.

Remarks. Rokitansky has found abnormal peritoneal bands, or rents in the mesentery, to be the most frequent cause of internal incarceration. These bands are probably, in most instances, the result of some previous inflammation of the peritoneum. In many recorded cases, we find a distinct history of mesenteric mischief; in the case related by Mr. Hilton, in *Med.-Chir. Transactions*, vol. xxx, the patient, 20 years of age, was the subject of mesenteric disease in early childhood, and, some time subsequently, suffered from symptoms which indicated peritonitis; here, from the history, the nature of the obstruction was accurately diagnosed, and found after death to be a band of false membrane, including a knuckle of the ileum. Mr. Druitt also records an instance, where a boy, eleven years old, died after the operation of gastrotomy for the relief of the intestinal stricture; and old adhesions were found in the peritoneal sac, one of which was the cause of the constriction. The boy was stated to have suffered for eight years with occasional severe attacks of pain in the abdomen, subsiding under the use of medicine.

In the two cases above related, there was no evidence of former peritoneal mischief; indeed, from patients of this class, it is always difficult to get a clear account of their ailments. In both instances it was carefully observed, that the abnormal band forming the constriction was the only one discovered of any strength or consistence, which seems to disprove the inflammatory origin of the bands, and raise a suspicion of their being congenital. Rokitansky mentions the frequent congenital occurrence of unusual length of the duplicatures of the peritoneum, or of supernumerary folds and pouches of that membrane. These pouches are chiefly found, he says, in the hypo-

gastric, and more especially in the iliac and inguinal regions, and about the fundus vesicæ; and communicate with the peritoneal cavity by a well-defined fissure or ring, frequently surrounded by a tendinous band, lying in the duplicature.

CANCER IN POSTERIOR MEDIASTINUM: PHLEBITIS.

The following case, related by Professor Larsen, is published at p. 151 of the *Bibliothek for Læger* for January 1850.

A woman was admitted into hospital, at Copenhagen, with slight varicose ulcers in one leg, which were soon healed. In a short time, her appearance became cachectic, and she was seized with phlebitis in the left arm. The superficial veins were obstructed; but the symptoms were removed by anti-phlogistic treatment. Some time after, she was seized with symptoms of phlebitis in the thigh. The whole limb swelled; the crural vein felt like a hard cord; the superficial veins were obstructed; the disease extended; and she died in a state of increasing weakness and cachexia. After death, the brachial veins were found almost entirely obstructed, and filled with coagula: the morbid appearances extended into the vena cava. A probable cause of the phlebitis was found, in the form of a cancer, in the cellular tissue along the aorta and vena cava, and extending as far as the diaphragm.

PULMONARY CANCER: OBSCURITY OF PHYSICAL SIGNS.

A labourer, aged 34, was admitted into the General Hospital at Copenhagen, on 14th October. A month previously, he had commenced to be affected with emaciation and sweats. A fortnight before admission, he first perceived chest symptoms, which began with a violent, irritating cough and frequent dyspnœa. When seen, he had also palpitation, anorexia, and thirst; his pulse was 100, and his strength failing; expectoration was difficult, and the sputa were scanty, white, and frothy. He complained of pain in the neck; but nothing could be discovered on examining the throat. The percussion-sound was normal; and the stethoscope only revealed some sibilant rhonchus. His condition became worse on the subsequent days. The cough was more frequent, the expectoration more abundant, the respirations from 50 to 54, the pulse 130; diarrhœa had set in, the perspiration increased, and was accompanied, in three days, by chills. His sleep was disturbed by orthopnœa; emaciation advanced more rapidly than could be explained by the other hectic symptoms; the countenance was sharp and anxious; the stethoscopic signs remained the same. After he had been in hospital for five days, he was observed to have a swelling of the veins under the left clavicle, extending over the shoulder. Two days later, he was seized with œdema lower down in the arm, which rapidly spread upwards, but was unattended with pain or swelling of the veins. Percussion was now dull under both clavicles, respiration was as before, and the expectorated matters contained some purulent clots. Some days later, the glands along the clavicle, and in the axilla, were hard, and swollen to the size of hazel-nuts. The dyspnœa and orthopnœa remained, the pulse was from 120 to 130, and the respiration from 46 to 50. The case was diagnosed to be one of Pulmonary Cancer, on account of the aspect of the countenance, the varicose veins, the swollen glands, and the œdema, although auscultation gave no great support to this opinion. The Cancer was considered to be diffused, or to be situated in the centre of the lungs. Some days later, œdema appeared in the ankles. On examining the patient, the percussion-sound was found less clear, and the heart was higher than usual, evidently in consequence of the increase of the cancerous growth. The patient died, under symptoms of general exhaustion, on November 4.

Post-Mortem Appearances. Both mediastina were found filled with medullary Cancer, which seemed to have originated in the bronchial glands. The surrounding cellular tissue was emphysematous: this had prevented the seat of the Cancer from being discovered by percussion. On the pleura, also,

nearest the pericardium, there were large carcinomatous masses. The lungs were universally heavy, and appeared, externally, as if hepatised; but no hardened portions could be felt in them. On section, they were found to be in the first stage of so-called cancerous infiltration. There was a remarkable development of cellular tissue, in the form of thick rings, round the entrances of the divisions of the bronchial tubes into the lungs On scraping the cut surfaces, there exuded, from numerous small, white, scattered carcinomatous spots, a creamy fluid, which, as well as the bronchial glands, contained cancer-cells. (*Bibliothek for Læger*, January 1850.)

DR. POLAK ON THE ACCOMPANYING DISEASES, SEQUELÆ, AND METASTASES OF CHOLERA.

The observation of the epidemic or endemic diseases which accompany Cholera, possesses scientific and practical interest. During my charge of Cholera patients for two months in Klobauk and Tessan, I either personally treated or else witnessed twelve hundred cases. The following are the results of my observations:

1. I noticed thirty-one cases of Dysentery, of which five were consecutive on Cholera, the rest were idiopathic. As the persons attacked lived in houses where cases of Cholera had occurred, it is probable, that both were modifications of the same disease. Cholera patients are sometimes attacked by dysentery. The identity of the two diseases is farther confirmed by the circumstance, that in both the bile-pigment is absent from the stools, and that its reappearance may be considered as a sign of returning health. Epidemic dysentery, also, does not differ from Cholera in the manner in which it attacks patients. It is true, that the pathological appearances are different; but this may be explained by supposing, that Cholera runs its course too rapidly to admit of localization. Few pathologists, indeed, will seek for the causes of typhus in the infiltration of Peyer's patches, or of dysentery in the ulcers of the large intestine.

2. In the province of Tessan, Measles prevailed at the same time. Nearly all the children who had this disease, were attacked with Cholera—several during the premonitory symptoms, several after the eruption, several in the period of desquamation. Many who had recovered from Cholera, passed through an attack of measles. A young man had a bad attack of Cholera: there were severe cramps, extensive cyanosis, and pulselessness. He was treated by frequent cold ablution of the whole body; and recovered. Three days after, fever and catarrh set in, and measles appeared over the whole body, and ran their usual course to desquamation. It is important here to observe, that I have not confounded measles with roseola.

3. The relation of Cholera to Intermittent Fever was remarkable. In this district, which at an earlier period was covered with extensive marshes, most of which have been dried and reclaimed for cultivation, epidemic ague prevails in various, and often malignant forms. In July, it was observed by myself and other physicians, that there was a considerable diminution in the number of cases; in August, when Cholera broke out, the intermittent fever was, as it were, cut off, so that occasional cases only occurred here and there. In five cases, the first cold stage was attended by a severe choleraic paroxysm, which ended favourably: the paroxysms on the third day had their normal character. In my examinations of Cholera patients, I often found, that they had suffered from intermittent fever some weeks previously, from which they recovered spontaneously. A case came under my notice, in which a boy, fourteen years old, had intermittent fever for two months, the paroxysms at last becoming mild: in one of these, he was attacked by Cholera, and died.

Of the various remarkable phenomena, metastases, and sequelæ, which were observed, hæmorrhages were most frequent. These occurred (*a.*) In two cases, as bleeding from the nose. (*b.*) In seven cases as otorrhagia. The patients complained for several days of pain and noise in the ears. A large

quantity of blood was discharged, with considerable relief. In some cases, where the pain was very severe, a quantity of pus or lymph was discharged instead of blood. (*c.*) In two cases, which terminated fatally, there was hæmorrhage from the lungs.

The following were the metastases. (*a.*) In several cases, there was furunculus, which, however, might in all cases have arisen from rubbing with hard materials. (*b.*) Parotitis occurred in six cases: in five, it proceeded to suppuration, and, in a sixth, which I scarified at an early period, it ended in resolution. (*c.*) Blennorrhœal otitis occurred in several instances. (*d.*) Iritis was observed in one case. A man, who had passed through a slight attack of Cholera, was attacked, a short time after, with severe iritis, which might very probably be considered as metastatic, from analogy with the otitis. (*e.*) A young man, who had passed through a very severe attack of Cholera, had, during convalescence, furunculus, and inflammation of the right shoulder-joint. (*f.*) In two cases, delirium remained after Cholera; but was removed by bleeding and derivants.

With regard to the absorbent power in this disease, the following fact is worthy of note. A woman, who had been confined to bed the greater part of several years with ascites, was attacked with Cholera in August. In two days, she was free from the swelling and œdema; but, as I afterwards learnt, the fluid collected again. This fact deserves notice, as, in several pregnant women who died of Cholera, I performed the Cæsarean section, and found the liquor amnii in the usual quantity; and other women, who aborted during the disease, discharged the normal quantity of this fluid. [*Zeitschrift der K.K. Gesellschaft der Aerzte zu Wien*, February 1850.]

TURPENTINE AS A STYPTIC IN ACTIVE AND PASSIVE HÆMORRHAGES: THE DOSE, AND MODE OF ADMINISTRATION.

Dr. Thomas Smith, of Cheltenham, ably directed the attention of the profession to the value of Terebinthinate Medicines in a memoir, published in our number for April 1850, p. 321 of this volume. After entering into some details regarding its power over various hæmorrhages, he thus sums up his account of its styptic properties. "In my experience, there is no single medicine that can be compared with it as a *styptic*, either as to certainty of action, or to the safety of its effects. It is compatible alike with acids and with alkalies." In the *Medical Times*, 17 Aug. 1850, p. 167, Dr. William Budd, of Bristol, has published a paper entitled "Case of Purpura; with Remarks on the Styptic Properties of Oil of Turpentine", which contains much that is confirmatory of Dr. Smith's statements.

Dr. Budd justly remarks, that the efficacy of Turpentine in purpura is not dependent upon it as a remedy for the blood lesion: its action is not against purpura as purpura, but against purpura as hæmorrhage. He says that the styptic virtues must depend on its exerting some direct influence on the contractible power of the blood-vessels. This he regards as the only plausible explanation of the equal efficacy of this medicine in restraining bleeding, under so great a variety of pathological conditions. He believes it to be better adapted to cases of passive than of active hæmorrhage.

Dr. Budd has some practical remarks upon *the dose, and mode of administration*; the substance of which we subjoin. In common cases, such as those of purpura, for instance, where time does not press, he has found doses varying from ten minims to half a drachm quite effectual; but in cases of rapid loss of blood, where sometimes every minute is of importance to life, it is better to give half an ounce, or an ounce at once, to be followed up by smaller doses at shorter intervals. The use of this medicine is not without its drawbacks. Few drugs are more repugnant to delicate stomachs. In many it excites vomiting: in others it causes painful strangury; and the irritation of the urinary organs is sometimes so great, that blood is passed with the urine. He has found that half a drop or a drop of creasote to each

dose, almost entirely covers its nauseous taste, and prevents the risk of sickness. Ten or twenty drops of spirit of rosemary will help to make the prescription less disagreeable. Common mucilage is the best vehicle for keeping the Turpentine in suspension. The risk of strangury is not easily obviated; but it may be diminished by the free use of diluents. When the use of the medicine is stopped, the strangury, however severe, quickly ceases.

SURGERY.

THE OPHTHALMIA OF NEW-BORN CHILDREN, AS OBSERVED AT THE FOUNDLING HOSPITAL OF ST. PETERSBURG.

The following is an abridged translation, from the *Journal für Kinderkrankheiten* for March and April 1850, of the abstract of an interesting report drawn up by Dr. Froebelius, of the cases of Ophthalmia Neonatorum observed at the Foundling Hospital in St. Petersburg, from 1st September 1846, to 1st September 1848.

Statistical Abstract. From the 1st September 1846, to the same date in 1848, 882 children were treated for Ophthalmia, of whom 474 were males, and 408 females, being in the proportion of about 6 to 5. The greater tendency of male children to be affected, is more plainly shown by the fact, that from September 1846, to September 1848, 5,929 male children were admitted, of whom 474 suffered from Ophthalmia; and 6,149 females, of whom 408 were affected: the males being thus in the proportion of 4 to 3 to the females. It will be also seen, that 7 per cent. of the total number of children had Ophthalmia.

The *ages* were as follows:

In 110 children		under 4 days.		In 9 children		from 4 to 5 months.	
— 271	„	from 4 to 8 days.		— 3	„	„ 5 to 6	„
— 188	„	„ 8 to 14 days.		— 2	„	„ 6 to 7	„
— 102	„	„ 2 to 3 weeks.		— 1	„	„ 8	„
— 70	„	„ 3 to 4 „		— 1	„	„ 9	„
— 59	„	„ 1 to 2 months.		— 1	„	„ 10	„
— 45	„	„ 2 to 3 „					
— 20	„	„ 3 to 4 „		882 (total).			

The *duration* of disease was various, and depended on the individual sequelæ. In the two years, one case of blepharitis was observed, which disappeared in twenty-four hours. The longest duration was three months; most frequently the disease terminated in from fourteen to forty days. The average period was twenty-three days

With regard to the *type* of disease, 827 cases of the 882 were admitted in the inflammatory stage. Of these, 115 had conjunctivitis palpebrarum, with photophobia and blepharospasmus; 479 had conjunctivitis of the eyelids and sclerotic, with photophobia and blepharospasmus; 233 had, in addition, conjunctivitis of the cornea. In all, then, conjunctivitis of the eyelids was present; in 712, the sclerotic was also affected; and, in 233, the cornea. In connexion with the great frequency of conjunctivitis of the eyelids, is to be observed the remarkable number of cases in which granulations occurred as sequelæ. The remaining 55 children were above three months old, and were already the subjects of various sequelæ of inflammation in different combinations, viz.: granulations of the conjunctiva, softening of the cornea, ulcers of the cornea, partial staphyloma, entire leucoma, with synechia, and atrophy of the bulb. In the 827 children admitted during the inflammatory stage, the following sequelæ were observed during the course of the disease, and remaining after it: granulation of the conjunctiva, keratomalacia, ulcers of the cornea, partial staphyloma of the cornea, various degrees of opacity (*nubeculæ* and *maculæ*), leucomatous cicatrices, with synechia, atrophy of the bulb, phthisis of

the bulb, and ectrophy of the upper eyelid. Of the 827 children, 463 had the complications before their admission.

The following table exhibits the results of the cases admitted during the two years referred to :

First Year.		Second Year.		
Cases admitted . .	460	Cases admitted . .	422	
Cured . .	305	Remaining from 1st year	43	
Blind . .	16			465
Dead . .	96	Cured . .	266	
Remaining .	43	Blind . .	6	
		Dead . .	165	
Total .	460	Remaining .	28	
		Total .		465

The following statement includes the cases of blindness in the preceding table, and also those observed in the Lazareth. There were 21 cases of blindness in one eye, of whom 4 died, and 4 remained blind ; and 43 in both eyes, of whom 21 died, and 6 remained blind.

The diseases which appeared simultaneously with Ophthalmia, or were developed during its progress, and influenced its result, were premature birth in 88 cases ; aphthæ in 300; jaundice in 222 ; crusta serpiginosa in 216 ; and syphilis in 36. The diseases next in order of frequency, were : bronchitis and pneumonia in 82 cases ; enteritis and peritonitis in 36 ; encephalitis and meningitis in 22 ; and atrophy in 39.

Among the 88 *prematurely born* children, there was not one case in which the Ophthalmia was fully developed ; the swelling of the eyelids had not arrived at its highest degree, nor was the purulent secretion so profuse as in healthy, well-nourished children : but there was observed, in the most important cases, an unusually rapid softening of the cornea, ending in ulceration and total destruction of the eye. The secretion was always a thin fluid pus, frequently mixed with blood, and the abraded surface of the membrane of the eyelids was livid, but did not present firm granulations, such as are observed in other children suffering from this disease. The swelling of the eyelids was soft, œdematous, and livid, and not of a remarkably high temperature. In the 88 cases of premature birth, 40 of which also laboured under jaundice, the following sequelæ occurred : granular conjunctiva in 12, keratomalacia in 9, ulcers of the cornea in 11, staphyloma of the cornea in 1, and atrophy of the bulb in 1. That inflammation of the eye is by no means most frequent in premature children, is shown by the fact, that the number affected (88) was only one-tenth of the total number of cases. The sequelæ just now mentioned, which were mostly observed in those prematurely born children who were affected with jaundice, shew the prejudicial influence of the latter affection on the ophthalmic disease ; for softening of the cornea occurred only once, and ulceration only three times, in children who had not jaundice.

Aphthæ formed the most frequent and unfavourable complication of Ophthalmia, one-third of the patients being thus affected. The prejudicial influence of this complication was evident in the sequelæ ; for, in the aphthous cases, there were found granulations in 194, softening of the cornea in 56, ulceration in 85, staphyloma in 19, and atrophy of the bulb in 25. One-third of all the patients had aphthæ ; and in this third, one-half of all the sequelæ, and two-thirds of the cases of blindness, were observed.

The *jaundice*, which was observed in new-born children during the first days of their life, exercised no prejudicial influence on the progress of the Ophthalmia, provided the children were mature and well-nourished ; but in weak and immature children, where the vital powers were not great, the result was much more untoward, as it also was in children of the same category, who had not jaundice.

Crusta serpiginosa seldom appeared before the first month, and was gene-

rally observed after the removal of the Ophthalmia, or, in older children, during its progress. In these it frequently retarded the cure, the granulations on the conjunctiva becoming affected through the extension of the inflammatory process, from the skin covering the eyelids, and the sclerotic conjunctiva and the deeper structures becoming affected. Of the 216 cases of crusta serpiginosa, none were under one month old, 91 were in the second month, and the rest were older.

Syphilis was a very untoward complication. Thirty-six children were thus affected, and the following sequelæ occurred in them: granular conjunctiva in both eyes, in 13 cases; softening of the conjunctiva in both eyes, in 10; swelling of the cornea in one eye, once, and in both eyes in 18 cases; staphyloma of the cornea in one eye, once; atrophy of the bulb in one eye, once; in both eyes, six times. Two per cent. of the syphilitic children became blind; hence, although 1-22 of all the patients had syphilis, 1-9 of the cases of blindness occurred among them.

The other diseases which have been mentioned, are rather to be considered as accidental complications, than as holding any causal relation to the Ophthalmia. There was not a single case of communication of the inflammation from the eye to the cerebral membranes; but there were several instances, in which the development of an erysipelatous inflammation on the face, or even on distant parts of the head, caused a metastasis to the meninges, and acute meningitis of remarkably rapid progress, as shewn by the purulent exudation found on post-mortem examination. The most frequent inflammatory attacks were those of the thoracic organs; and these were most usually developed after the appearance of crusta serpiginosa, when hepatisation rapidly set in, and was followed by death. Atrophy was often the result of an uncleanly, poor living; but it was also observed as a result of Ophthalmia, especially in fifteen patients, who were blind in both eyes. Dr. Döpp has frequently met with this form of death in blind children.

Influence of the Season of the Year. The observations made on this head have not yet led to any satisfactory results. The occasional remarkably increased intensity and contagiousness of Ophthalmia seem to depend less on the season, than on the great number of admissions, and the insufficient number of nurses. In the latter case, nutrition was defective,—one nurse having to feed two children, and to support, at the same time, an increase of duty. The number of children admitted in each month, were, in September 1846, 23; October, 36; November, 44; December, 27; January 1847, 38; February, 43; March, 31; April, 28; May, 35; June, 50; July, 34; August, 40; September, 48; October, 50; November, 25; December, 27; January, 1848, 39; February, 29; March, 33; April, 24; May, 31; June, 34; July, 41; August, 31; which, with 33 cases under treatment at the commencement of the period, make 882. In November 1846, there was damp and cold weather, and the thermometer sank from 2° to 5° Reaum. The Ophthalmia manifested an extraordinary malignity: children who were getting better, became worse, and the contagion also affected two nurses. The epidemic began to abate, when a part of the children were moved into another room, and thereby less heat and purer air was obtained; for, although the quantity of fuel was diminished, the thermometer in the rooms frequently stood, in the evening, at 18° R. In the course of this month, two children became blind in one eye, and four in both eyes. In June 1847, the disease became remarkably epidemic during damp, cold weather, north-west winds, low barometer, and a temperature not exceeding 8° to 12° R.: eight children became blind. Twelve nurses were seized with Ophthalmia. In 1848, the months of June and July showed similar states of weather; at this time, also, cholera prevailed, in consequence of which, the number of nurses was diminished by death and other causes. During this period the Ophthalmia was very malignant, so that in two and a half weeks six children became blind. On the whole, these data point out that the season of the year does not appear to exercise any remarkable influence on the disease.

Pathology. Dr. Fröbelius considers the vascular areolar tissue under the epithelium of the palpebral conjunctiva to be the seat of the disease; the glands of the eyelids becoming only secondarily affected. The part which seems especially to be the seat of the Ophthalmia, is that portion which forms the transition from the palpebral to the sclerotic conjunctiva. If the upper eyelid be everted at the commencement of the attack, when the external covering of the palpebræ is not yet very red and swollen, and when there is only a small amount of mucous secretion between the lids, the tarsal portion is found quite clear, bright, and of a light red, while in the fold of the conjunctiva there is a long, livid, soft tumour, evidently formed by cellular tissue filled with blood, and perfectly resembling the exudation of blood produced by a bruise. If this tumour be opened, a remarkable quantity of venous blood escapes, and the swelling of the eyelids instantly diminishes. In a more advanced stage, the redness is darker and more extended, but least intense at the tarsal border; the livid swelling is also more resistent, and has an uneven granular structure of a dark red colour. Still later, when the swelling and redness have made some progress externally, and the eyelids are opened with difficulty, but the upper lid is still easily everted, there are observed, on the fold of the conjunctiva before referred to, roundish granulations of a deep red colour, which diminish remarkably both in number and in size towards the tarsal border. With the extension of the granulations, their appearance also is changed: they increase so remarkably in size, that the number of individual granules, in proportion to the surface which they occupy, is diminished, and their round form, evidently from the pressure of the lids and of the bulbs, is flattened, and their apices become broader. In the lower eyelid, which is less subject to pressure, irregular tumours are formed, which increase, and exhibit great hyperæmia. It is very characteristic in this exudation into the conjunctival areolar tissue, that the fold of the membrane becomes more and more level, and at last the eyelid is so far removed from the eye, that ectropium is produced.

When the granulations have lasted for a longer time, they are firm and hard, and exhibit greyish plastic exudation, when a section is examined with a lens. As long as the sanguineous congestion is considerable, the granulations remain of a dark colour; but as soon as the quantity of blood is diminished, (and at this period the inflammation is often mitigated by the occurrence of spontaneous hæmorrhages), they lose their colour, and become pale; and there appear greyish yellow, round, more or less flattened elevations, with a still congested deep-red ground between them The eyelid now gradually loses its hardness and thickness, so that, on eversion, conspicuous oblique furrows are formed in the parts where the exudation is already reabsorbed, while the granulations remain on the raised parts of the eyelids. The masses of exudation assume an entirely different appearance as they become chronic; they can no longer be recognised as single granules, but form large excrescences of a pale red or yellow grey colour, and obtain, according to the quicker or slower absorption in different spots, a quite regular appearance. Between these masses, smooth patches of the conjunctiva, which has regained its normal condition, can here and there be recognised; these gradually extend, until at last the excrescences disappear: the membrane is smooth, but much reddened, and, for some time, pours out an excess of mucous secretion. The so-called papillary bodies in the Ophthalmia of new-born children are thus shewn to be a pathological product, and not merely the enlargement of the papillæ which already exist in the corium; for the latter are never found in the fold of the conjunctiva, which is the chief seat of the disease. The pathogeny of the affection may be described as follows: There is first congestion in the cellular tissue of the eyelids: the vessels are gradually increased, and new ones are formed; these exude plasma, the numerous aggregations of vessels already existing in the cellular tissue form still thicker networks, and there is a proportionately considerable exud-

ation, giving rise to the resistance to incision and the remarkable hæmorrhages. With the disappearance of this mass of blood, the exudation also cases, while the venous circulation becomes more free, and the remaining symptoms—swelling, redness, and secretion—disappear. Examination after death always exhibited the infiltration of the cellular tissue, and the plastic exudation-masses on the excrescences and on the conjunctiva.

When the inflammation has attacked the sclerotic conjunctiva, the photophobia, spasmodic contraction of the eyelids, and the swelling increase. On the sclerotic conjunctiva, there is very quickly formed a fine thick network of vessels, extending to the cornea. In twenty-four hours, a chemotic swelling has generally formed on the cornea, and the latter soon loses its transparency, and has an appearance like glass which has been breathed on. These changes sometimes proceed so rapidly, that the cornea is rendered perfectly opaque in twenty-four hours. It is then still possible, though more difficult, to open the eyelids. Under the microscope, the dull whitish cornea shows a loosening of the epithelium, which is raised into bladders in particular places; and this takes place most early in the centre of the opacity, where it is most intense. In from twenty-four to forty-eight hours, the epithelium is thrown off, and washed away by the purulent secretion, in the whole extent of the cornea, so that only a narrow border remains. When this occurs, the lamellæ of the cornea are observed to be attacked; rarely only the superficial layers are affected, but generally its entire thickness is destroyed, but to a smaller extent than the epithelium. The deeper the lamellæ, the smaller is the extent of the destruction; so that the point at which the cornea is perforated is only of the size of a pin's head, forming the apex of a funnel. Several autopsies have shown the existence of a funnel-shaped cavity, with the prolapsed iris at the apex. The whole of this process bears a remarkable resemblance to the death of the cornea, after section of the trigeminus nerve, as observed by Longet and Pappenheim. In this case, the rapid softening of the cornea might be produced by the impediment to the circulation, as well as paralysis of the nutritive nerves of the cornea in consequence of the chemosis of the sclerotic conjunctiva.

These cases, in which the disease was concentrated on the conjunctiva covering the sclerotica and cornea, were neither observed to be preceded by a phlegmonous swelling of the eyelids, nor accompanied by a profuse secretion of pus; while the cases of the highest degree of palpebral conjunctivitis, with profuse purulent secretion, often continued long, and disappeared without leaving any trace of opacity of the cornea. Only in very tedious cases of granulations, when the purulent secretion was very gradual in diminishing, the access of crusta serpiginosa brought on a relapse, in which the globe of the eye was attacked, and then the softening process sometimes took place. Another evil result of the implication of the globe in this disease, is the formation of ulcers on the cornea, which were produced by the extension of the disease from the conjunctiva of the sclerotic and cornea, in the phlegmonous inflammations of well-fed children. Several bundles of vessels extended from the borders of the cornea, and extended into a fine thick network, in the middle of which a phlyctenula formed, generally towards the circumference of the cornea. This phlyctenula soon burst, leaving a small abscess, which, if it were not sufficiently protected from the destructive influence of pus, rapidly penetrated deeply, without extending much in breadth: it usually showed a slight opacity in the vicinity, and sharply defined borders. Blepharospasmus, photophobia, and a more watery secretion accompanied it. This process of ulceration soon ends in performation, and prolapse of the iris, if it sets in when Ophthalmia is at its height. Yet the prognosis in these cases was more favourable than in those of softening: and deep ulcers were frequently observed to be perfectly healed, with a slight lateral displacement of the pupil and *synechia anterior partialis*, without any essential impediment to vision.

In healthy children, it is sometimes possible to arrest the progress, both of the ulceration, and of the process of softening. The inflammation then recedes, the chemosis disappears, the network of vessels is diminished, and the cornea gradually becomes clearer, leaving, however, a certain unevenness, but without opacity, at the spot which has been denuded of epithelium. If the cornea itself have been destroyed at this point, a central spot is formed, which gradually decreases in breadth. After perforation has taken place, there remains a leucomatous cicatrix with synechia, and often a staphyloma, so that sight can only be regained by the formation of an artificial pupil.

Dr. Fröbelius recognizes two forms—blepharo-blennorrhœa and ophthalmo-blennorrhœa—in children, as in grown persons; the latter form is that, in which the disease of the eye precedes that of the eyelids. An accurate line of demarcation cannot be drawn between the two forms.

Prognosis. This depends on the complications, as well as on the activity and extent of the inflammation. Even a moderate degree of inflammation becomes unfavourable, if aphthæ appear; the inflammation then increases, and assumes an erysipelatous character, so that this sudden increase may lead us to infer the presence of aphthæ. It is only by energetic antiphlogistic means that this disease is now to be subdued; and if we wait for a single day, for the further progress of the aphthæ, the bulb will be already attacked, and the patient will not escape without sequelæ. In icteric children, the eyelids were livid, especially towards the edges, the swelling of which was moderate and soft. The conjunctiva, when turned up, was seen to be yellow-red only in the vicinity of the swelling before described; the secretion was watery, of a bright yellow colour, mixed with some flocks of mucus; it coloured linen yellow. This complication was dangerous only when the yellowness of the skin remained, the bowels were constipated, and the respiration impeded; the strength then rapidly diminished, and the Ophthalmia was destructive, if the child did not first die from the impeded respiration.

Causes. The causes of the Ophthalmia of new-born children are considered by Dr. Fröbelius not to exist in the Foundling Hospital, but much rather in the removal of the children to it, they being freely exposed to light and air on the road; and still further in the miserable domestic condition of the lower classes, to which by far the greater number of children belong, who are admitted into this institution.

Treatment. 1. In the commencement of the disease, while the swelling, redness, and secretion of mucus, are moderate, and if the intestines are regular in their function, the eyes should be frequently and carefully cleaned with tepid water; they should also be protected against hurtful external influences, and this is best effected by dropping almond-oil into them twice a-day. At the beginning of the disease, especially before purulent secretion commences, cold applications are much to be recommended, especially when they can be very diligently renewed. 2. If the palpebral conjunctiva were very remarkably swollen, the redness darker, and the secretion of pus so much increased as to flow during sleep from the inner angle of the eye, a solution of corrosive sublimate in the proportion of gr. i to ʒi of water, with ʒss of tincture of opium, was applied. 3. If the redness were very vivid, and the hard swelling of the eyelids increased, so that they were difficult to open, and if there was discernible swelling and redness of the sclerotic conjunctiva, especially when the mucus appeared mixed with blood, a leech was applied to each temple, and almond-oil was continued as an emollient remedy, and to prevent the agglutination of the eyelids. 4. For photophobia and spasms of the lids, a solution of ʒss of extract of belladonna in ʒii of water was used: ten drops of which were poured on the hand, and rubbed into the supra-orbital and temporal regions several times daily, according to circumstances. 5. When the swelling of the lids, the photophobia, and the spasms, have disappeared, and when the inflammation of the bulb has ceased, but there is still profuse purulent secretion with commencing granulations, then a solution of gr. i to ii of nitrate of silver in ʒi of water is applied

several times. 6. The treatment of granulations of the palpebral conjunctiva varies according to the degree of the disease and its prevailing type: and it is further influenced by the character and duration of the disease. The blue red swelling in the fold of the conjunctiva, as soon as the eyelids exhibit congestive redness, and the secretion principally consists of a white mucus, is opened in its long diameter. The bleeding which follows is encouraged by means of tepid water, and finally cold applications are used to prevent reaction. Dr. Fröbelius here mentions, that the artificial leech, introduced a short time before by Knusmann, had been found of great use. This instrument not only perfectly supplies the place of leeches, but also seems to possess some advantages over them. If the granulations are scarlet red, with an elastic inflammatory swelling of the eyelids, and much purulent secretion, photophobia, and spasm of the lids, and if, as is usually the case, the child be strong, leeches, followed by the artificial leech to each temple, are the most successful remedies. The emollient remedies before-mentioned are to be also employed, together with friction of mercurial ointment and belladonna on the region of the eyebrows. This treatment is more particularly demanded, if spontaneous hæmorrhages or aphthæ appear. 7. When the granulations are pale red, the granules indistinctly developed and irregular, and the purulent secretion profuse, but the swelling of the eyelids soft, the redness of the external skin, and the photophobia and spasms, slight, the sclerotic white, and the cornea clear, and if the child can open the eyelids, cauterisation with nitrate of silver in substance, and cold fomentations to prevent inflammatory reaction, have proved of great utility. A single sudden washing out is better than several dabbings, or the application of a brush to any single part of the eyelids. Immediately after cauterization, oil must be applied to the lids. If the fungosities on the conjunctiva appear fleshy, so that large masses of them project when the upper eyelid is everted, they must be excised. After this, cauterization is sometimes necessary, to overcome the fungous growths. 8. The ulcers of the cornea must be variously treated, according to circumstances. If, in severe cases of Ophthalmia, there was rapidly produced opacity of the cornea, and ulceration, antiphlogistic and emollient remedies were found more useful than stimulants and astringents. Ulcers of this kind were transparent, had sharply defined edges, and penetrated rapidly, before they had extended much. But if they had a dull whitish ground, with irregular edges, and if the surrounding cornea had a pannous opacity, with, however, indistinct inflammatory symptoms, the solution of nitrate of silver was found very useful. The use of *lapis divinus*, sulphate of zinc, and sulphate of copper, with tincture of opium, was also successful, though in a less degree. The application of calomel in powder appeared of no advantage. 9. The treatment of keratomalacia was generally unsuccessful, as soon as the lamellæ of the cornea were implicated, and the disease had attacked more important parts. At the commencement, the evil was guarded against by antiphlogistic treatment, while this was still indicated, with frictions of grey ointment, and calomel internally. But if the softening had extended much, especially in weakly children, applications of *lapis divinus* with tincture of opium appeared to answer best, with the internal use of aqua oxymuriatica, especially when aphthæ were present. In several cases of incipient softening, Dr. Fröbelius employed the aqua oxymuriatica, without any other external means than dropping in oil, with the most happy results. 10. The iris, when prolapsed, was cauterized, and belladonna was applied several times to dilate the pupil. Dr. Fröbelius considers a timely use of the latter remedy as likely to prove of the greatest service in preventing greater injury to the eye. All cases of staphyloma which were forming, were cauterized. 11. The internal treatment was regulated by the condition of each individual child. In plethoric children, with a very red countenance, and considerable Ophthalmia, abstraction of blood, and the internal use of castor oil were employed. When

the biliary secretion was impeded, and the bowels were scantily moved, calomel was given in doses of half a grain once or twice daily. In mild cases of aphthæ, borax was applied with a brush, and rhubarb with magnesia, in fennel water, administered internally. In very considerable diphtheritis of the mouth, the aqua oxymuriatica was applied externally with a brush, and was also administered in teaspoonful doses three times daily, in some mucilaginous decoction.

PROFESSOR SYME ON THE EXCISION OF ENLARGED TONSILS.

Professor Syme, in a paper published in the *Edinburgh Monthly Journal of Medical Science* for September 1850, states his objections to the treatment of simple Enlargement of the Tonsils by escharotics or ligature, and proceeds to make some remarks on excision, which we give without much curtailment.

The method of excision dates so far back as the time of Celsus, who advises, when other means have failed to remove Enlargement of the Tonsil, "*hamulo excipere, et scalpello excidere.*" It does not appear to have been systematically or extensively employed until the middle of last century, when various French surgeons devoted much attention to its practice and improvement. Of these, M. Caqué, surgeon of the Hôtel-Dieu of Rheims, and his colleague, M. Muzeux, seem, from the excellent papers of M. Louis, in the Memoirs of the Academy of Surgery,[1] to have been most successful in their exertions. The former of these gentlemen operated in many cases with great success ; and the latter, in order to facilitate the process of removal, contrived a peculiar sort of forceps, which still retains his name. This instrument is about seven inches in length, and, from the handle of the blades to their junction, resembles that employed for the evulsion of nasal polypus. The extremities of the blades are slightly curved, and each terminates in a double hook, so fashioned as to take a sure hold of any soft substance such as the tonsil. Though the operation was thus rendered wonderfully easy and safe, it still retained a character of difficulty and danger that opposed its general introduction into practice, and in this country precluded its employment entirely until comparatively a very recent period.

In the year 1821, during my residence in the Royal Infirmary of Edinburgh, as House Surgeon, one of the female patients suffered from Enlargement of a Tonsil. After trying sulphate of copper, and similar applications, without success, I attempted the ligature, but without being able to accomplish it ; and then, as the tumour was of no great size, resolved to remove it by excision, which was accordingly done very readily by means of a hook and curved scissors. This, as far as I know, was the first instance of a tonsil being cut out in Edinburgh. Next year I went to Paris, and there found M. Lisfranc in his course of operative surgery on the dead body, treating excision of the tonsil as an established operation. He employed for the purpose a straight narrow blunt-pointed bistoury, of which the blade was sheathed, except for rather more than an inch from the point, and explained that if the tumour was pulled inwards from the side of the fauces or merely held steady in its natural position, the knife might be carried with perfect safety through its base, as the blade must then be parallel with the carotid artery, and at such a distance from it as to render any injury of the vessel quite impossible.

Much impressed with the advantages of the operation as thus performed, I endeavoured, on my return home, to promote its adoption ; and, having carried with me the forceps of Muzeux, placed them in the hands of Mr. Liston, who afterwards did all in his power, by precept as well as example, to establish the practice. Abundant opportunity has been afforded for determining the merits of the operation, by extensive and long continued experience.

In no instance has hæmorrhage or any other unpleasant accident occurred. The excision is accomplished with hardly any pain ; and children, who are sometimes induced with difficulty to submit, in the first instance, seldom

[1] Tom. v, p. 423.

offer any objection to removal of the second tonsil. I never employ a speculum of any sort,—even in the youngest and most obstreporous patients,—the forceps sufficiently keeping down the tongue, and the wide opening of the mouth preparatory to the emission of a cry, affording ample space for the knife to act. In the whole course of my practice, I have only on two occasions failed in accomplishing the object in view, through the excessive size of the tongue, and contraction of the mouth. The knife should possess a very keen edge, as the glandular substance is sometimes indurated, and a partial division of it would lead to great embarrassment, from the blood trickling into the pharynx, and causing such cough or convulsive efforts as must render a fresh seizure of the tonsil next to impossible. I generally remove the left tumour first, and then the right one, by crossing my hands so as still to retain the knife in the right. The process is instantaneous. and the relief immediate. The bleeding seldom exceeds a teaspoonful or two, and no after-treatment is required.

ENCYSTED TUMOUR OF THE LABIUM, SUCCESSFULLY TREATED BY THE APPLICATION OF NITRATE OF SILVER TO THE INTERIOR OF THE CYST. BY DR. R. M'DONNELL.

Having met with some cases of Encysted Tumours of the Labium, which presented greater difficulty in diagnosis than is stated by writers on diseases of females to exist, and having derived the greatest satisfaction from a peculiar method of treatment of these Tumours, I am induced to lay the particulars of the following case before the profession, in illustration of these two points.

I was consulted, March 16, 1846, by a lady aged about thirty-six. She stated that, three years before, after a severe and long journey in the winter, during which she suffered much from the bad state of the roads, she was attacked with violent vomiting, which lasted for a fortnight. After it ceased, she noticed, for the first time, a small Tumour inside the left Labium, which she considered a rupture produced by the efforts at vomiting, having formerly been subject to inguinal hernia. This Tumour gradually increased up to the present time; it was not, at any period, painful, never receded or diminished in size, never emitted any gurgling sound, nor was it ever the seat of œdematous swelling, heat, or redness. It had gradually increased, and had latterly interfered with her movements; and, for some time previous, had prevented her sitting down, except with the body reclining far back; and, when she sat on a hard seat, pain of an acute kind used to shoot upwards, from the Tumour through the sacrum. Latterly, she has been annoyed by a sensation of dragging from the loins. The Tumour itself had never been the seat of pain, nor had there been any discharge from the vagina, or any irritability of the bladder. The catamenia had been absent for years. She had never been pregnant but once, and then she had a miscarriage.

On examination, a Tumour, of an oval shape, was found occupying the left labium; it was about the size of a goose-egg, running along the labium from the anterior fourchette to the perinæum, *and sending a process upwards, for about two inches, along the wall of the vagina.* The skin covering it was devoid of any inflammatory appearance, and moved freely over it. There was no pain complained of when pressure was employed. On coughing, *an impulse was given to the tumour when it lay in its usual position*; but, when it was lifted up, it did not receive any. On percussion, it yielded a dull sound. All attempts at making it enter the abdominal cavity completely failed. No irregularity was noticed on its surface; no rumbling heard at any time, nor was there the least change produced by the varying conditions of the bowels; when constipated, the Tumour was as soft and as small as when they were relaxed.

March 20. An exploratory puncture was made, and matter of a dark olive colour, devoid of odour, escaped. The opening was enlarged, and a tumbler

full of thick fluid flowed out, which was of a creamy consistence; and, on microscopic examination, was found to be composed of decomposed pus-globules, with a large quantity of what appeared to be epithelial scales intermixed. The sac of the Tumour was freely cauterized with nitrate of silver, conveyed on a probe, and the orifice kept open by means of a plug of lint.

March 27. The sac of the Tumour has been filled up with solid secretion, and has undergone great diminution in size. No general disturbance.

April 1. Scarcely any trace of the Tumour to be detected, except some thickening of the labium, giving to it a greater fulness and prominence than the other. Ordered to apply mercurial ointment.

April 10. Perfectly recovered. No traces of the disease left.

Remarks. With the exception of Dr. Ashwell, no writer on diseases of females, that I have consulted, speaks of the points of similarity presented by some cases of Encysted Tumours of the Labium, and vaginal and pudendal hernia. He remarks, "that he has known much difficulty arise in diagnosis of this Tumour, from a hernia"; and, in the case I have detailed, the size of the Tumour, its shape, supposed origin, and apparent connexion with the interior of the pelvis (by means of the ascending process already described), together with the fact, that the patient was predisposed to rupture, and that the Tumour received some impulse from coughing, made me proceed cautiously with an exploratory puncture before laying open the cyst.

It is true, that, for one case which will present any difficulty in diagnosis, we may meet with a dozen where no such obscurity exists; yet, from the occasional occurrence of such cases, the practitioner should examine all with care, before attempting a cure; for it is strange, that, though the differential diagnosis between inguinal tumours and hernia, in the male, is insisted upon with great force by all writers on these subjects, yet, in works especially devoted to diseases of women, little attention is paid to the matter. But it was more especially with the view of illustrating a method of treatment, which I have found invariably successful, and productive of little annoyance to the patient, and of easy application,—that I have laid the foregoing case before the profession.

Four plans of treatment have been recommended for the cure of these Tumours: 1. Complete dissection out of the whole of the cyst—a plan which must be extremely difficult in most cases, in all extremely painful, and in such a case as mine, quite impracticable. 2. Laying open the cyst, and filling it up with charpie. 3. Seton; and 4. Removal of the fluid, and then compression, so as to bring the walls of the cyst into close apposition. The plan of treatment which I have employed for some years past, has been to cauterize, with nitrate of silver, the lining of the membrane of the cyst, so as to cause adhesive inflammation; and this process I have found to be so readily excited by the caustic, that I have never been obliged to repeat it a second time. In some instances I have touched the granulations, occasionally, during the progress of the cure, for the purpose of hastening the filling-up of the sac; and these were instances where I believed that the nitrate of silver had acted, not by inducing adhesive inflammation, but by effecting a change in the functions of the membrane, in consequence of which, it threw out granulations, instead of secreting, as formerly, a peculiar fluid. In every case in which I have used the nitrate of silver in this manner, a speedy cure has followed, unattended by any bad consequences, and the patient has not been aware, in the majority of instances, that anything beyond the mere puncture of the cyst has been attempted. When we reflect for a moment upon the difficulty of dissecting out a cyst even of moderate size, and upon the excessive pain the patient must endure, both in this operation and in the second and third I have mentioned, and when we recollect the extreme difficulty, if not impossibility, of applying accurate pressure, it will be allowed, that the method I propose, is, at least, unattended with any of these inconveniences; and if it should prove in the hands of others, as successful

as it has done in mine, and I have little doubt but it will—it must be considered a plan of treatment preferable to any recommended for the cure of this disease.

The method of preparing the caustic may not be known to some of my readers, and I shall therefore make no apology for describing it: A large-sized probe should be dipped in caustic, which has been rendered fluid by melting in a watch-glass, over a spirit-lamp or wax candle, until there is a complete coating of the caustic on the probe. When this cools, we have the nitrate of silver, in a form well suited for being conveyed through a small opening and into a deep cavity, and by bending the probe, we suit it to the shape of the cyst, and thus it can be brought into contact with all parts. In large cysts, such as that under consideration, I have had two or three probes thus prepared, as the quantity of caustic coating one, is not enough for the extent of surface to which it must be applied.

This method of destroying cysts, I have been in the habit of employing in other diseases, as in the encysted tumours of the eye-lids, and in sebaceous encysted tumours; and lately I succeeded in curing a lady of a tumour of the shape, and about twice the size of an almond, which had been growing for some months on the left jaw, and which had resisted every plan of treatment proposed by her former attendant, who had at last recommended its extirpation. A small puncture was made into it, and its contents, which were composed of a reddish jelly-like substance, were squeezed out. A probe, coated with caustic, was introduced, and freely applied to its interior. For the next few days, a small quantity of bloody serum oozed out, but the tumour gradually diminished in size, and now, no trace of it remains, nor is there the least scar visible, which, I need not say, is a matter of some importance.

The discovery of this method of conveying lunar caustic to deep recesses, has been ascribed by some of the writers in the *Dublin Quarterly Journal of Medicine*, to my friend Mr. Wilde; but the paper in which he first alludes to it, was submitted to myself as Editor of that periodical, before its management fell into his hands; and in a note referring to the matter, he attributed the discovery to Mr. J. Morgan, from whom he had learned it. I mentioned, at the time, that Mr. Morgan was not the discoverer, for the plan was quite familiar to myself and other surgeons long before Mr. Wilde's paper was written, and had been spoken of at a meeting of the Surgical Society, in connexion with the treatment of small nævi. The paper was published, and the obligation to Mr. Morgan omitted; and hence the origin of "Mr. Wilde's method of applying caustic." [*British American Journal of Medicine*, 1849.]

DR. LORINSER ON THE MAXILLARY NECROSIS PRODUCED BY PHOSPHORUS VAPOUR.

The *London Journal of Medicine* for October 1849 contained, at p. 961, an abstract of the views of Dr. Helfft on the Maxillary Necrosis of lucifer-match makers; and the December number contained the abridgments of a paper on the same subject by Mr. H. Taylor, and of a clinical lecture by Mr. Stanley. In the *Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien* for July 1850, we find a statement of the results at which Dr. Lorinser has arrived, from an examination of thirty cases of the disease.

Dr. L. considers the disease as a general affection, with a marked tendency to attack the lower jaw. That the whole organism is affected, is proved by the ashy countenance; by the diarrhœa, and bronchial catarrh; by the pain in the joints, as well as by tuberculosis of the lungs in the progress of the disease. The lower jaw is affected in a remarkably larger proportion of cases than the upper jaw, or the other bones of the face. The first symptom is swelling and tenderness, at a point in the lower jaw: osteophytes are formed, first as irregular homogeneous porous masses, attached to the bone,

of a dirty green colour, in the dried preparation, and containing fine canals, at right angles to the long axis of the bone. In the further progress of the disease, they become more massy and compact, have a lamellar structure, adhere more firmly, and have canaliculi running parallel with the bone. In the meantime, pus and ichor are formed, which dissolve and remove a portion of the new osseous formation, especially of the first-named kind. The bone is denuded of its periosteum, and becomes necrosed: but a firm shell forms over it. In some cases, even the condyle of the jaw is restored. This was observed in some patients who died, at a later period, of pulmonary phthisis—a disease, which Dr. Lorinser has seen to attend all the more severe forms of the affection of the jaw. In the upper jaw, there is scarcely any reparation: the periosteum here seems to have less vital activity, and the osteophytes are thin and pulverulent, and easily removed with the pus, so that their existence has been denied. Dr. Lorinser, however, has found them not only in the upper jaw, but also in the other bones of the face.

With regard to the treatment, Dr. Lorinser is opposed to resection of the diseased part of the bone, on account of the difficulty of determining its extent, because reparation is imperfect, and because, if an affected portion be left, the disease will still extend. He prefers enucleation of the jaw, especially in advanced stages of the disease. In any case, the patients must be removed from exposure to the vapour of phosphorus, and be taken into the country; the abscesses and sinuses must also be opened, to give exit to the pus.

MATERIA MEDICA AND PHARMACY.

LINUM CATHARTICUM, OR PURGING FLAX.

This is a well known indigenous annual, belonging to the natural family *Linaceæ*, and *pentandria pentagynia* in the Linnæan system. It has a slender stem, and small white flowers. It is used as a popular remedy in rheumatism, and other complaints. Dr. Butler Lane thinks that it deserves more notice from the profession than it at present receives. The following is an abridgment of his remarks in the *Medical Times* of July 13th, p. 31.

The extractive matter of the linum catharticum appears to be very soluble in water, and but partially so in alcohol. By the action of hot water, the dried plant yields rather more than one-sixth of its entire weight as an extract, leaving merely inert and tasteless vegetable matter. The medicine has usually been administered in the form of an infusion, but its nauseous flavour renders it very objectionable; and as an aqueous extract of proper pill consistence is readily obtainable, it is the best form for administration. The dose of this is from five to ten grains twice or three times a day; in such quantities, it exerts a mild but efficient cathartic action, generally unattended by griping, and, at the same time, it sensibly promotes the secretion of the liver. The cathartic action appears to influence both the mucous and muscular structures of the alimentary canal, more especially the upper part of the small intestines. The linum catharticum produces no specific effect on the nervous system.

In catarrhal and rheumatic maladies I have found the linum catharticum very effectual. The benefit is more slow in the latter; and seems to depend on the diuretic action. In chronic rheumatism, especially when affecting muscular structures (as in lumbago), it is, I think more efficacious, than any other simple medicine. The diuretic action is readily manifested when the medicine is given at short intervals. In cases of ascites connected with hepatic disease, I have found it very efficient. It is a very safe medicine.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY,

Tuesday, June 11, 1850.

Benjamin Phillips, Esq., V.P., in the Chair.

On Fungus Cerebri. By George Lowe, Esq , M.R.C.S. (Communicated by Frederick Skey, Esq., F.R.S.) Case i. C. K., a groom, was kicked on the forehead by a horse ; this produced compound and comminuted fracture of the skull, with laceration of the brain. Several pieces of bone were removed. Inflammation supervened ; and, ten days after the accident, there was a dirty white pulsating tumour, of the size of a nutmeg, protruding through the wound : from its surface, there was a copious oozing of serous fluid. The patient suffered also from drowsiness and vomiting. Mercury was given ; lint was applied to the wound, and cold dressings to the head. This treatment subdued the disease ; the tumour became more and more fibrous, and at last sloughed away ; and the patient recovered, apparently retaining the full possession of his strength of mind and body.

Case ii. This was a lad, aged 19. The history was somewhat similar to that of the preceding case : but, at the beginning of the fourth week, when convalescent, he ate heartily of beef and other things for dinner. Local and constitutional symptoms again set in ; the fungous tumour returned ; coma came on, and the patient died.

Remarks. The author referred to the varieties of hernia cerebri, as mentioned by authors ; and contended that the only form of the disease was a fungous growth or excessive granulation from the brain, and not a protrusion of part of the brain itself ; for it was not probable, that a piece of the brain of the size of a large orange could be removed, without severe injury to the functions of the organ. Mr. Lowe believed Fungus Cerebri to be the result of cerebral granulation, and that the period at which it appears is dependent on the occurrence and co-existence of granulation and inflammation ; and he pointed out the physiological reasons which led him to this conclusion. In the treatment, the author advocated the early and careful removal of splinters of bone. If inflammation and Fungus supervened, antiphlogistic means were to be employed ; and the only application to the Fungus should be dry lint covered with oiled silk, so as to allow the use of refrigerants to the scalp. If, after inflammation had subsided, the Fungus should not decrease, tonics, and gentle pressure on the tumour might prove beneficial.

Dr. Webster related a case, in which he had seen Fungus Cerebri excised many years ago. The patient had, thirty years after, presented himself to Dr. Webster, in good health, and with his intellect not at all impaired.

Case of fatal Poisoning by Sir W. Burnett's Fluid. By H. Letheby, M.B. (Communicated by T. B. Curling, Esq.) The symptoms and post-mortem appearances were those of irritant poisoning ; and zinc was detected by chemical tests.

Retention of Urine in the Bladder for Nine Days. By A. W. Gabb, Esq. (Communicated by H. Bence Jones, M.D., F.R.S.) In this case, a small oxalate of lime calculus, weighing less than half a grain, escaped with the urine which first passed. Mr. Charles Hawkins regarded the case as unique ; and considered the retention to have depended on spasm, and to have been in the kidneys or their pelves.

Case in which the Urachus remained open, and a Ring-shaped Calculus, formed on a curved hair in the Bladder, was extracted through the Umbilicus. By Thomas Paget, Esq. (Communicated by William

Bowman, Esq., F.R.S.) J. C., aged 40, had suffered for more than a year from painful micturition: and a calculus was readily detected on sounding. There was an opening at the umbilicus, through which urine sometimes escaped. Through this passage, Mr. Paget extracted the calculus with his finger. In the linea alba, there is a circular opening of an inch in diameter, with a thick, hard margin. A hernia, of the size of a goose-egg, protrudes through this, and is covered by mucous membrane. When the hernia is out, no urine can be passed, until, by the efforts required for micturition, the whole of the hernia has been drawn within the abdomen. When this is done, urine escapes freely both by the opening and by the urethra. He can retain a pint of urine.

Tuesday, June 25, 1850.

Dr. Addison, President, in the Chair.

Two Cases of Idiots with Absence of the Thyroid Gland, and Symmetrical Swellings of fat tissue at both sides of the Neck. By T. B. Curling, Esq., F.R.S. In two cases of idiotic children, who had during life present soft symmetrical swellings at the sides of the neck, these were found, after death, to consist of fat-tissue, without any investing envelope, and loosely connected to the surrounding parts. The thyroid gland was also absent; and Mr. Curling thought it very probable, that the abnormal deposits of fat in the neck were dependent on the absence of those changes which result from the action of the thyroid, or on some imperfection in the assimilating processes, consequent on the want of this gland.

Case of Hemiplegia, in which Loss of Speech was a prominent Symptom. By Robert Dunn, Esq. The patient was a woman, aged 65, who had three apoplectic seizures, in the last of which she died. She recovered from the first attack, and regained the full use of her arm and leg, but had the peculiarity of using one word for another. After her second attack, she had paralysis of the right side, and was unable to speak, though her mind was intact. The upper two-thirds of the anterior lobe of the left hemisphere were disorganized; the corpus callosum was nearly destroyed, and so was the upper half of the corpus striatum on the left side. The optic thalamus was shrunken; the anterior commissure and fornix were gone, but the corpora geniculata remained. On the right side, the hemisphere was healthy; but there was a small recent apoplectic clot in the lateral ventricle, on the upper and anterior surface of the corpus striatum. The whole upper portion of the corpus, as well as the outer surface of the thalamus, were in a state of softening. The cerebellum and base of the brain were healthy. Mr. Dunn considered this case to support the view of Gall, that the seat of the faculty of speech is in the anterior lobes of the brain. He considered that, in the case related, the functional power of the left anterior lobe was entirely abolished; and that, although the right hemisphere was healthy, and probably exercised its function as a centre of intellectual action, still the volitional power was wanting, to give utterance to the passing thought, for the corpus striatum was not in its integrity.

On a Case of so-called Chylous Urine. By H. Bence Jones, M.D., F.R.S. The patient was a man, aged 32, who passed milky urine, which contained fat, albumen, fibrin, blood-corpuscles, and alkaline salts. Dr. Bence Jones made some series of observations, to determine the effect of various modes of treatment. The following is the general average per 1000 on the observations. 1. *Animal food;* Urine chylous 968 times, free from chyle 32 times: 2. *Vegetable food;* chylous 910, free from chyle, 90: 3. *With pressure, belt loose;* chylous 667, free from chyle 333: 4. *With pressure, belt tight;* chylous 638, free from chyle 362; 5. *Matico;* chylous 474, free from chyle 526; 6. *Gallic acid;* chylous 17, free from chyle 983; 7. *After Gallic*

acid; chylous 0, free from chyle 1000. Gallic acid was taken for 53 days; on the third day, the albumen and fat disappeared from the urine: and for 69 days after the medicine was left off, the disease did not reappear.

Prolonged Expiratory Murmur as a sign of incipient Phthisis. By Theophilus Thompson, M.D. The author had noticed 308 cases among the out-patients at the Hospital for Consumption, in whom prolonged expiratory murmur was the most prominent symptom, and in 288 of the cases, was almost invariably heard near the apices of the lungs. It was most accompanied by hæmoptysis in 91 cases out of the 288. Assuming that 43 per cent. of the hospital patients have hæmoptysis before softening takes place, he observed that, while the co-existence of hæmoptysis with prolonged expiration pointed to a connexion between it and phthisis, yet the low frequency of hæmoptysis in these cases points out, 1. That prolonged expiratory murmur takes place of other signs: 2. That hæmoptysis more frequently precedes than follows the deposition of tubercle. Dr. Thompson believed that, in the absence of such sources of fallacy as emphysema and bronchitis, this disturbed rhythm of the murmurs is the most early and significant sign of Phthisis.

Case of Abscess in the Vesiculæ Seminales, proving fatal by Perforation of the Bladder, and Extravasation of pus into the Abdominal Cavity. By Mitchell Henry, Esq. The patient was a sailor twenty years old. The symptoms during life simulated hip-joint disease, with purulent, and afterwards bloody urine. He died with symptoms of peritonitis. After death, the remains of an abscess were found in the left vesicula seminalis, which was nearly destroyed by suppuration. The abscess had perforated the bladder by a small rounded hole; the peritoneum reflected from the side of the bladder also became perforated, so that the pus had found its way into the abdominal cavity, and set up fatal peritonitis.

Case of Ileus and Strangulated Hernia occurring in the same Individual. By Samuel Solly, Esq., F.R.S. The patient was a young man, aged 21, who had been suffering from obstinate constipation. Strangulated inguinal hernia occurred, for which he was operated on by Mr. Solly, the external and internal abdominal rings being divided, and the sac opened. After death, a foot and a half of small intestine was found enormously distended, and very black, lying in the pelvis; it was girt by a band about an inch and a half long, connected with the cæcum on one side, and with the peritoneum covering the iliacus externus muscle, close to the internal abdominal ring, on the other. The band was round and firm, and seemed to be either a result of old adhesive inflammation, or the remains of the omphalo-mesenteric duct. Mr. Solly believed it to have been the cause of the previous obstinate constipation.

Special General Meeting, Thursday, July 11, 1850.

Dr. Addison, President, in the Chair.

Changes in the Berners Street House. The Council reported, "that in pursuance of a resolution passed at a Special General Meeting, held May 1st, 1849, they have concluded an agreement under which they are now in possession of the whole house (in which they hitherto had apartments only, at £210 per annum), for a period of upwards of forty years, at £160 per annum. The Council have carefully considered how they could most advantageously increase the accommodation at present afforded to the fellows; and they are of opinion that it is extremely desirable that a larger amount of space should be provided in the meeting room, with improved ventilation. A plan has been procured from Messrs. Wigg and Pownall, architects, by which the necessary accommodation can be obtained, at an estimated cost of £1000. The present meeting room is thirty-two feet long, by twenty-eight feet wide, and seventeen feet six inches in height, the super-

ficial area is eight hundred and ninety-six feet, and the cube contents sixteen thousand feet; as altered, it will be fifty feet long, by twenty-eight feet wide, and twenty feet high, the superficial area one thousand four hundred feet, and the cube contents thirty thousand feet. They are of opinion that the present council room might be advantageously appropriated as a room in which those fellows who wish to read and write, free from interruption, might be accommodated. The substantial and ornamental repairs necessary for the rest of the premises are estimated to cost £600. These alterations the Council beg to recommend to the Society for adoption, and that they should empower the trustees of the Society to sell as much stock as will produce such a sum (not exceeding £2,000) as may be required for defraying the expenses of these alterations, and for the payment (already authorised by the Society) of £300 to Mr. Scott for his interest in the lease of the premises."

The Society, after an animated debate, refused to sanction the proposed expensive alterations, and decided that the house should simply be put in a state of efficient repair.

MISCELLANEOUS INTELLIGENCE.

Approaching Session of the Medical Society of London. The first meeting will take place on Saturday the 12th instant, when the proceedings will be opened by a paper from the President of the Society. This meeting, our readers are aware, is the first since the amalgamation of the old Medical with the late Westminster Medical Society. We cannot but congratulate the Fellows, and the profession at large, upon the pleasing prospect which is now opening. At last, the metropolis may look forward, with confidence, to the establishment of a Society so constituted, as, in every respect, to meet the exigencies of the times. It is a fact, curious yet not less true, that, numerous, great, and deservedly-esteemed, though the scientific societies in London are, there is yet not one in itself capable of carrying out the manifold objects of an Academy of Sciences. Societies that might have taken the initiative in carrying out such views, have so long neglected or refused to act, that they have ceased to be in a position to do so; while others, governed by monopolising bodies, are too deservedly unpopular to undertake the task with any chance of succes. None of these objections apply to the Medical Society of London. With antiquity, and the most active portion of the medical talent of the metropolis on its side, it is preeminently qualified to supply the void.

The Library and Hall of meeting are now in a most central position, at No. 33 George-street, Hanover-square. The meetings are to be held, (as formerly, in the Westminster Medical Society.) on Saturday evening, and are to continue weekly, until the end of May. But the advantages of the Society have been greatly extended: several new and most wholesome measures have been adopted. An old custom in the Medical Society has been also revived, namely, the appointment of Sectional Committees, consisting of distinguished and active Fellows: one for Medicine, one for Surgery, and a third for Midwifery. Other Sectional Committees are in contemplation. The departments of Chemistry, of Materia Medica, and of Statistics, will be duly represented. From the labours of these Sectional Committees, much public and professional advantage may be expected. We would suggest that, in future, the Sectional Committees consist of *thirteen* in place of *seven* members; and that they be elected by the Society. The aggregate Sectional Committees ought then to form the Executive Council. It has been proposed to open direct relations with Government, in relation to sanitary or other measures connected with medical science. Companies and individuals, moreover, requiring information and advice on any point of vital statistics, on new discoveries, or other improvements

made, will have the opportunity, in this way, to obtain the advice and assistance of a Sectional Committee especially appointed for the purpose of giving the information. Herein, it is hoped, will be developed a valuable agency :—a board, whose opinions, unbiassed by Collegiate partialities, or Government control, may ultimately—and the sooner the better—supersede the Board of Health, or, at least, carry out the intentions of that ill-constituted institute in stricter accordance with truth and science,—a task which can never be accomplished by untrained sanitary amateurs. In this way we hope to see Public Hygienics prevented from continuing (as at present) little better than a branch of quackery, and a field for jobbing.

Two Lettsomian Professorships have also been established. Though these appointments are, owing to the limited means at the disposal of the Society, only as yet honorary, it is to be hoped that they may not always remain so. Those who obtain them will at least have reason to be proud of the distinction. They have been named in honour of the distinguished benefactor of the old Medical Society. Their object is to enable Fellows who have become distinguished in any particular branch, to communicate their views in a more public and satisfactory manner—precisely as the lecturers at the Royal Colleges do, only that hereafter men shall not be elected by the partiality of a few high in office, but by general suffrage, merited through their own intrinsic and distinguished knowledge. We hope to see the Lettsomian Professorships become objects of high ambition, honourable emulation, and some emolument.

The library of the old Medical, towards the support of which all available means will be employed, is a great advantage. It is hoped that it may be enriched now, not only in the older standard works, but also by those of more recent publication. Large presents of this kind, from many of our most esteemed modern authors, have already been promised. The Reading Room will remain open, we understand, from 11 A.M. to 10 P M , and will thus afford ampler facilities for the study and consultation of books, than London has ever yet afforded to the medical profession.

The Fothergillian Medals are well known. This year an additional medal is offered, to commemorate the occasion of the amalgamation.

The number of papers already promised is unusually large; and we may thus look for a very interesting and instructive session. The papers, it is hoped, will be issued at the close of the session in a volume of transactions. Papers only of value should be read ; and *all* those read should be printed in a good but inexpensive form, provided the authors supply their manuscripts when required, and do not cause delay in bringing out the volume.

All these are great, very great advantages, and entitle to gratitude those who planned and carried out the amalgamation. We trust that the motives of the council of the Society, and their exertions during the recess, will be appreciated by every medical practitioner in or near the metropolis. The profession may rest assured, that the Medical Society of London will, if it obtain the support it merits, be surpassed by no other Society ; that it will not only take the lead among the Societies of London, but gain a preeminent position among the most famous and the most learned academies of the world. We therefore earnestly advise all who love medical science, and all who desire (easily and unexpensively) to keep pace with its progress, to rally round the banner of the London Medical Society. Let all metropolitan practitioners, who are not now Fellows, with one consent enter the Society, and then all that could be desired will be accomplished.

Mortality and Public Health of Oxford. An excellent example has recently been set in the city of Oxford, by the publication of monthly and quarterly reports of its sanitary condition, together with classified lists of deaths in the Infirmary. These instructive reports are now regularly issued under the patronage, and at the expense, of the Ashmolean Society, being

compiled by Dr. Greenhill and Mr. Allen, who have appended some valuable editorial remarks. We hail their appearance with satisfaction, and trust that other towns will not fail to adopt a similar publication. Much useful information, now lost to the profession, would thereby be put upon record, and conduce greatly to the advance of sound knowledge and practical experience. According to the Quarterly Report, for the spring of 1850, the state of the public health at Oxford was highly satisfactory; the deaths being proportionally fewer than in the metropolis; although London then proved also very healthy. A comparison even of the mortality from zymotic diseases in the two cities, shows a slight superiority in favour of Oxford. The diseases from which the greatest number of deaths occurred, were phthisis, fever, convulsions, and disease of the heart. The deaths from fever proved more numerous than in the similar period of any of the previous years; whilst those from erysipelas were more than double the average. No fatal case of small-pox has been reported at Oxford in any spring quarter since 1845; an immunity, doubtless, greatly owing to vaccination. The classified list of deaths in the Infirmary contains a short statement of the most important cases, with the chief symptoms, and the pathological appearances observed on dissection. The profession are much indebted to Dr. Greenhill and Mr. Allen for these useful statistical tables. If every hospital and infirmary throughout Great Britain would periodically publish similar official reports, far more correct notions respecting the mortality in public institutions would be acquired, than we at present possess. We believe that the deaths in hospitals are more numerous than they ought to be.

Disgusting Libel on the Medical Profession, published by Order of the House of Commons. Blue Books are often full of worthless and irrelevant opinions; they are also sometimes made vehicles for libel. Mr. Sadler, an undertaker, states in his evidence, that "it is known that surgeons take commission on funerals." This may be true in some exceptional instances, for within the pale of our profession, as in others, improprieties and crimes are committed; but it was grossly wrong to convert an unsupported charge into a disgusting libel on the entire medical profession, as is done by publishing it in the Blue Book. If Mr. Sadler had been asked,—"Is it known that clergymen have committed adultery, and lawyers forgery?" he could only have replied in the affirmative. But would this reply have been published at the expense of the country? It is most discreditable for members of the House of Commons thus wantonly to put forth so revolting, and so false and disgusting a libel on the medical profession.

Testimonial to Dr. J. Conolly, of Hanwell. As an amiable and upright men, and as a learned and accomplished physician, Dr. Conolly is worthy of all praise; but it is in the nobler position of a great benefactor of his species, that he peculiarly deserves the honour and the gratitude of his fellow men. Honour and gratitude never were more richly merited. We are therefore rejoiced to find that a committee has been formed for presenting to him a testimonial "commemorative of his invaluable and most successful labours in ameliorating the condition of the insane."

Testimonial to Mr. G. A. Walker. We hope that a large sum of money may be collected for this most proper object. The newspapers recently announced, that a numerously attended and influential public meeting had been held for the purpose of taking steps to collect a fund "to present Mr. Walker with a Testimonial of the public sense entertained by the community of his energetic, unwearied, and successful labours in the cause of sanitary reform, and of the removal of the dead from the centre of the homes of the living." We are glad to learn that the subscription is going on prosperously.

Lancet Biographies of Living Medical Men. There is at present in course of publication in the Lancet, a series of one hundred biographies of eminent living members of our profession. Objections may at first be taken to the project, on the plea of its indelicacy or general impropriety; but so far as it has already been executed, there is not much for the most captious to complain of. There have already appeared, interesting and instructive memoirs of Sir Benjamin C. Brodie, Dr. Chambers, Mr. Guthrie, Dr. Marshall Hall, Dr. Clutterbuck, and Mr. Bransby B. Cooper. The seventh of the series will be Sir James M'Grigor. A portrait accompanies each biography.

Biographies of Eminent Deceased Medical Men. The *Medical Times* has commenced a series of biographical sketches. The memoir of John Green Crosse, F.R.S., late of Norwich, is well written, and full of interest.

St. Mary's Hospital, Paddington. The medical and surgical staff are to be appointed about the close of the present year. The candidates are not very numerous.

Sir Benjamin C. Brodie at Dublin. This eminent surgeon was honoured by a public banquet by the Royal College of Surgeons of Dublin on the 29th of August.

Statue of Larrey. A marble statue has been erected to the memory of this illustrious surgeon in the court-yard of the Val-de-Grâce of Paris. The inauguration was recently celebrated with much pomp and ceremony.

Cheap Medical Schools. If Cheap Medical Teaching have degraded the status of the teacher and the taught in England, what are we to expect in America? In the Rush Medical College of Chicago, Illinois, the students only number 107, yet the following are the terms. Full course of seven professors, 35 dollars; matriculation and clinical instruction, *gratis;* dissections, 5 dollars; graduation, 20 dollars. So much for competition!

The Middlesex Magistrates and the Coroner's Court. The Middlesex Magistrates have a resolution under consideration to the following effect: "That this Court is of opinion that measures should be taken for the substitution of a fixed salary, in lieu of fees to the Coroner, and for the appointing of a Medical Officer to the Coroner's Court, at a fixed salary, for making post-mortem examinations."

Hunterian Orator for 1851. Richard Anthony Stafford, Esq., surgeon to the St. Marylebone Infirmary, a member of the Council of the Royal College of Surgeons, is the gentleman appointed to deliver the annual oration in the theatre of that Institution, on the 14th of February next, in memory of the immortal genius of John Hunter.

Bristol. Several inhabitants of this city have raised a subscription to increase the efficiency of the Guinea-street Hospital. Mr. Eaton has contributed 5,000*l.*, and Mr. George Thomas 1,000*l.* for that purpose.

APPOINTMENTS.

Duvernay, M., appointed Professor of Comparative Anatomy in the *Jardin des Plants*, Paris, in the room of the late M. De Blainville.

Hulme, Edward C., Esq., elected Surgeon to the Blenheim Street Free Dispensary, in the room of Mr. T. M. Girdlestone, resigned.

St. Hilaire, M. Isidore, appointed Professor of Natural History at the Sorbonne, Paris, in the room of the late M. De Blainville.

OBITUARY.

Bulley, John, Esq., Surgeon to the Reading Infirmary, at Reading, aged 76, on the 30th August.

Burman, Hugh Francis, M.D., at Henley-in-Arden, aged 35, on 28th August.

Clarke, H. T., Esq., Surgeon, aged 40, on 23rd August.

Griffiths, Mr. W., aged 27, in Bedford Square, on 11th September. He destroyed himself by prussic acid.

Marshall, John, Esq., many years Surgeon in the H.E.I.C.S., late Physician-General of the Bengal Presidency, aged 67, at Falmouth, on 30th August.

Morgan, D., Esq., Assistant-Surgeon H.E.I.C.S., at Nainee Tal, Bengal, on 21st June.

Neville, Joseph, Esq., Surgeon, at Croydon, aged 47, on 12th September.

Taylor, Alexander, Esq., Surgeon R.N., at Queenstown, Ireland, on 7th Sept.

Young, G. W., Esq., Surgeon, at 37, Mortimer Street, Cavendish Square, aged 75, on 30th August.

BOOKS RECEIVED.

Bright (James) on Diseases of the Chest. London: 1850. Carpenter (W. B.) on Alcoholic Liquors. London: 1850. Chambers (T. K.) on Corpulence. London: 1850. Holland (G. C.) on Phthisis. London: 1850. Howard on the Eye. Montreal and London: 1850. Smith (Thomas) on Terebinthinate Medicines. [Reprinted and enlarged from this Journal.] London: 1850. Taylor (William) on the Treatment of Febrile Diseases through the medium of the Skin. London: 1850. Yearsley on Deafness. London: 1850.

TO CORRESPONDENTS.

Mr. Martin of Reigate, and the State of the Medical Profession. Our recent articles on the State of the Medical Profession, have called forth letters from various parts of the country. The general tenor of these is alike gratifying to ourselves, and creditable to the profession. Several suggestions have been made to us, and shall receive our best attention. We have to thank Mr. Martin for his letter, and the accompanying address, on apprenticeships, delivered at a recent medical meeting at Reigate. Mr. Martin agrees with us in thinking that the system of apprenticeship, although liable to abuse, and requiring beneficial modification, is by no means so essentially objectionable as it is sometimes represented to be; and that if properly carried out, *the three years now usually spent as an apprentice*, may be made the most valuable period of the student's career. We are happy to find our views upon this important subject confirmed by one of so much experience and weight.

Classified Lists. We must request several correspondents, who have addressed us regarding the Classified Lists, to remember that they are neither intended to supersede an Index as copious as that of our volume for 1849, nor to diminish the space at present devoted to the monthly Digest of the Journals. We hope, however, to save much space by a greater condensation of the Reports of Societies, and by so doing, we expect to give *the Classified Lists as so much additional matter*. Most papers of value mentioned in Dr. Henry's lists have been, or will be given in an extended or abridged form in our pages; and therefore, for purposes of research, the Annual Indices must be consulted, as well as the Classified Lists of papers; the one will be found to be an essential supplement to the other. While we make our Journal a key to the medical literature of the world, we take care (for the sake of those who have not access to large collections of books) to render it likewise a rich and complete Library of Medicine—a perfect repertorium of all that is new and useful in the various sciences embraced in, or accessory to, Medicine, Surgery, and Obstetrics.

Communications for the Editor to be sent to 100, St. Martin's Lane.

ERRATUM.

Dr. Hale was styled (in the title of his paper, p. 720), "Extra-Licentiate of the College of Physicians", in place of "Licentiate". The error arose from the designations of the list of contributors on the cover having been made up from the *Medical Directory*, in which Dr. Hale is erroneously styled "Extra-Licentiate". The error thus adopted, unfortunately crept in at p. 720.

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ORIGINAL COMMUNICATIONS.

OBSERVATIONS ON VALVULAR DISEASE OF THE HEART: ILLUSTRATED BY CASES.

BY ROBERT HUNTER SEMPLE, M.D.

[*Read at the Medical Society of London, Oct. 19th,* 1850.]

There is, perhaps, no department of medical science in which such rapid and satisfactory progress has been made of late years, as in the Diagnosis and Pathology of the Diseases of the Heart. At the commencement of the present century, very little accurate knowledge was entertained concerning the morbid conditions of this important organ; and it is painful to reflect upon the serious errors in practice, which must have arisen when cardiac pathology was in a state of obscurity. The great work of Laennec, while it investigated and described with considerable accuracy the diseases of the lungs, and threw a flood of light upon their treatment, failed in giving a similar degree of precision to the physical examination of the central organ of the circulation. When I was a student in this metropolis, the Diseases of the Heart were in progress of investigation by a number of acute and laborious observers; but, even in the best schools of medicine, the nature of the healthy sounds was still a matter of doubt, speculation, and discussion; while the morbid sounds, although attentively observed and accurately described, were not attributed, in all cases, to their real causes, or connected with their true pathological conditions.

At the present day it may be said, I think without exaggeration, that the diagnosis of the Diseases of the Heart is now so well understood, that it may be almost ranked among the number of the exact sciences. The labours of our illustrious countryman Dr. Hope, and the no less important researches of Dr. C. J. B. Williams, have left hardly any room for doubting the accuracy of the laws which are now laid down as guides for the physical investigation of the Heart. The healthy sounds have been referred to their true causes by experiments and reasonings so satisfactory and conclusive, as to carry conviction to all rational minds; while the morbid sounds have not only been accurately connected with their true pathological phenomena, but have been localised

with such precision, that it may be almost said, that we could hardly discern the morbid condition of the Heart with greater clearness, if the organ itself, and its thoracic coverings, were constructed of transparent materials.

By this species of knowledge, diligently acquired and faithfully followed up,—the facts and conclusions of our great writers being carefully stored in the mind, and subsequently confirmed by physical examination during the life-time of the sick, and by the revelations obtained by the scalpel after death,—by such means, the knowledge of the nature and treatment of cardiac disease has been improved to an incredible extent: human sufferings have been often alleviated, or abridged; latent mischief has been detected, and arrested in its progress; and life in many instances, has, undoubtedly, been prolonged. But it may, I think, be fairly asked, whether this branch of medical science has not been pushed somewhat too far in modern days; and whether, led away by the brilliancy of the researches into cardiac diseases, and fascinated by the simplicity which now attends their physical investigation, some practitioners do not now lay too much stress upon the aids derived from auscultation, and neglect the attendant phenomena, which modify the healthy and morbid conditions of the central circulatory organ?

The structural derangements of the Heart have always been justly regarded as matters of the highest importance, and as demanding the utmost attention on the part of the medical profession. The deep interest attached to this class of diseases, by the profession, has been extended to the public in general; and an anxiety, of the most painful nature, is often entertained by patients, and their relatives, regarding the real, or supposed, existence of organic Disease of the Heart.

It would be insulting to a Society so enlightened as that which I have now the honour to address, to point out the marks of distinction which exist between real, and supposed Disease of the Heart; between the symptoms which sometimes spring from the exalted imagination of the patient, and those which denote actual organic mischief; between the indications which involve only partial and, perhaps, transient derangements of its functions, and those which prove an alteration in its structure. But I may be permitted to observe, that notwithstanding the excellent books and lectures published upon the subject, and notwithstanding the facilities offered by our great hospitals, the diagnosis of Heart-disease is by no means so generally accurate as it might be; and it has fallen to my own lot to find members of our profession, even among those who hold a very respectable rank, commit rather serious errors in this respect. Still, setting aside the mistakes of inaccurate observers, there can be no doubt that organic affections of the Heart are at present among the most common, as well as among the most fatal diseases.

Of all the organic diseases of the Heart, the morbid conditions of the valves have, perhaps, been regarded as the most formidable. It is easy to conceive that either hypertrophy or dilatation, or both, may exist, and yet, if the valves be sound, the life of the patient *may* not be seriously threatened, nor his health materially impaired; the channels of the circulating fluid are still free and patent, and the condition of the heart's muscular structure would not appear, arguing *à priori*, to

influence the current to a dangerous extent. But when there exists a diseased state *of the valves*, whether it consist of thickening, of rigidity, of ossification, of vegetations upon their surface, of malformation, or of deficiency; then it is clear that a material impediment is opposed to the circulation of the vital fluid, just as the current of a river would be impeded if a mechanical obstacle were placed across the stream. When we observe the beautiful mechanism of the cardiac valves, and contemplate their functions in health—the facility with which they make way for the passage of the blood, and immediately stretch themselves across the aperture to prevent its return—we could not but conclude, if we argued from physiological data alone, that any causes which should mechanically impede the onward passage of the blood, or which, by preventing the closure of the valves, should allow of its regurgitation, would be followed necessarily, and rapidly, by the most alarming and fatal consequences. But clinical observation teaches us, that while distressing symptoms, and fatal results often follow hypertrophy and dilatation without any disease of the valves, yet that the most serious diseases of the valves may be unattended with any remarkable symptoms, and may not tend either to shorten life, or to derange materially the health. I wish that I may be understood not to express an opinion that *any* organic diseases of the heart are without danger; but, I think, I may appeal to the records of clinical medicine to support the propositions just laid down.

The fact that murmurs of a very loud and distinct character have often been heard during the course of several years, without serious derangement of the patient's health, has been admitted, and commented upon, by authors; but, as far as I can learn, the explanation usually given is, that the morbid condition, whatever it may be, is only in a nascent or a rudimentary state, and that its development has been arrested by the conservative powers of the system, or by the appliances of medical art; and, indeed, it cannot be denied, that such an explanation is, in many cases, quite satisfactory. And it has been very correctly stated that the loudness and distinctness of the murmurs are by no means proportionate to the extent or importance of the diseases which originate them; and a very trivial cause, such as the presence of a slight vegetation upon one of the valves, has often produced a very loud murmur. Dr. C. J. B. Williams, in a very valuable paper on Organic Diseases of the Heart, published in the London Journal of Medicine for April last, gives an admirable case in illustration of this point. The patient was a man aged about thirty, in whom there was a very loud murmur, following the second sound; it was most distinct in the mid-sternum, but it was also heard in every part of the chest, in the arteries of the neck, and, although faintly, even in the radial artery at the wrist. This patient, as Dr. W. informs us, was kept in the hospital as a kind of stethoscopic curiosity. But it unfortunately happened that he caught typhus fever, of which he died; his death being quite unconnected with any severity of cardiac symptoms. On examining the body, the ventricles were found moderately enlarged and thickened. The valves were all healthy, except the aortic; and the only morbid appearance was, that one of them had the free margin neatly retroverted, so as to leave a fine, smooth chink for regurgitation.

It is evident, I think, from the tone of Dr. Williams's remarks, that he considers the loudness of the murmur to be no criterion of the extent or importance of the cardiac disease, in which opinion he is undoubtedly confirmed by abundant facts: but I think that he, and many other authors, conclude that, when a patient exhibits for a considerable period a cardiac murmur, the disease is generally of a slight or rudimentary, and therefore not of a dangerous character. I think I am in a condition to prove that *Valvular Disease of a most formidable and extensive nature, may exist for several years without compromising health to a serious extent, and without abridging the usual term of human existence.*

The cases which I am about to adduce are, I think, quite decisive, and, I believe, free from objection. I have carefully excluded the cases of persons still living, and also cases in which I had no opportunity of making a post-mortem examination; because I maintain that however veracious may be the character of the observer of cardiac disease, it is impossible, without observation of the phenomena exhibited after death, to consider any case as complete and wholly satisfactory. I may here observe, in passing, that without absolutely discrediting the accounts of cases which are continually published, wherein the patients have recovered, or in which no post-mortem examination has taken place, I am extremely sceptical upon the subject; and when I read of wonderful *cures* of fatal diseases, such as phthisis, and cancer, by the appliances of hydropathy or the trivialities of Hahnemannism, I am led to say "Credat Judæus Apella, non ego." The fact is, that our knowledge of pathology is still in its infancy, and the most accomplished and eminent members of our profession are as much distinguished for their modesty as for their splendid abilities:—but "fools often rush in" where "angels fear to tread."

My cases therefore are limited to three. In all of them I think it must be admitted that Valvular Disease of the most serious character had existed for a considerable number of years, without entailing upon the patients any remarkable amount of suffering, and without shortening the period to which human life is generally extended. Such cases as those I am about to offer to the notice of the Society may be, and no doubt are, often met with and described; but I confess that the history of chronic diseases and of latent organic defects in the human system has hardly seemed to me to meet with the attention which their importance deserves.

With the first patient I was but little acquainted, having seen him only for a few days before his death; with the second, I was acquainted for upwards of ten years, although not in a medical capacity, and simply because the patient never felt any symptoms requiring professional notice; with the third patient, I was also well acquainted for about ten years, and had abundant opportunities during that period of studying the stethoscopic phenomena.

Case I. Disease of Aortic and Mitral Valves, apparently of long standing. Death at Seventy years of age. J. H., æt. 70, formerly a seafaring man, had been ill for some months before I saw

him, which was in November 1846. I was asked to see him at a house where he lodged; he was standing up and dressed, but he complained of great debility, with cough, and some expectoration. He made no particular complaint concerning his chest, but on applying the stethoscope, I found that he was affected with serious Valvular Disease of the Heart, the indications of which will be presently noticed. I recommended his removal to the Islington Infirmary, in order that he might have more care taken of him than he experienced in his lodging, and also that I might examine the progress and result of the case with greater accuracy. He was accordingly removed, and I saw him again on the 9th of November 1846, when the following symptoms presented themselves. He was lying in bed, still complaining of great debility, with cough and some difficulty of breathing. The urine was scanty and high-coloured, but he had no swelling of the legs, nor any appearance of dropsy in any other part. The pulse was 104, very feeble and regular, the bowels open, the tongue moderately clean.

Physical Signs. Percussion gave no peculiar sound. Auscultation of the lungs gave no morbid indications. Auscultation of the heart gave a distinct but not very loud bellows murmur, accompanying the first sound of the heart, and prolonged so as in great measure to conceal the second. This murmur was heard at the apex of the heart as well as at the base, and there was no appreciable difference in the quality of the sound in either situation. The murmur was not to be traced far above the base of the heart, and it was not heard at all over the carotid arteries. The impulse of heart was not increased.

Diagnosis. Disease of mitral and aortic valves. I find it recorded in my notes made at the time, that the general appearance of this man was not indicative of the serious disease under which he laboured, and he merely looked like a person suffering from age, poverty, and privation. He was ordered to have a light and nutritious diet, and to take a mixture containing some tincture of henbane and a little ipecacuan wine; but he died the next morning rather suddenly and unexpectedly, after passing a restless night.

Post-mortem Examination twenty-four hours after Death. The body was that of a somewhat spare man, but was not emaciated. The *Head* was not examined. *Chest.* There were numerous adhesions between the costal and pulmonary portions of the pleura, which membrane was thickened in some parts. The lungs themselves were not materially diseased. The heart was somewhat enlarged, the apex being situated below the sixth rib. The right auricle and ventricle, with their valves, were quite healthy. The left ventricle was slightly thickened. The mitral valves were thickened with a cartilaginous deposit, but the auriculo-ventricular opening was patulous. The aortic valves were excessively diseased. Viewed from above, they appeared to be stretched entirely across the aorta, meeting in the centre, and allowing only a very small chink for the passage of the blood. Each valve was encrusted by a thick osseous deposit, of a nodulated character, which rendered the valve perfectly rigid. Viewed from below, the convex surfaces of the valves were seen to be also thickened with osseous deposit. There was likewise a deposit of bony laminæ in the aorta itself, a little above the valves. *Abdomen.* The liver was of natural size, but congested, and when

cut, it presented the nutmeg appearance. The kidneys were healthy. The other viscera were not minutely examined.

In this case, there was obstructive disease of the aorta of the most formidable character, together with regurgitant disease of the mitral valves. It is, I think, impossible to doubt that the disease must have lasted for a considerable time, and yet the man attained an average old age, and did not, so far as I could ascertain, suffer any very severe or distressing symptoms.

The next case, however, is more satisfactory, because I was personally acquainted with the patient, and I know that she suffered no remarkable symptoms whatever.

Case II. Disease of the Mitral and Aortic Valves, apparently of long standing. Sudden Death without any previous illness at Sixty-nine years of age. Mrs. K., æt. 69, was a lady of very active habits, of mild and benevolent disposition, temperate and abstemious, of rather tall stature and spare figure; she had always enjoyed good health, with the exception of an inflammatory attack about twelve years before the date of the present history, but the exact nature of the disease I had no means of ascertaining. Although intimately acquainted with her and her family for ten years previous to her death, and although I was the medical attendant of the family, I had never known her to complain of any illness. Since her death, however, I was informed that she suffered occasionally from slight attacks of dyspepsia, and also from difficulty of breathing and faintness, but the symptoms were very transient, and never required medical assistance. From personal knowledge I can state, that she was by no means a person of sedentary habits, as she was continually attending to the duties of a large house, and I met her walking in the streets almost every day. On Monday, June 27, 1843, about four in the afternoon, I was requested to see her immediately, as she had fallen down in a fit, although she had been previously in perfect health. At the time of the attack she was standing in the kitchen, superintending the affairs of the family, when she suddenly fell down. As I lived at that time next door to her, I arrived immediately upon being summoned, and found her lying on the floor with a pale countenance and very feeble pulse, and quite insensible. I was wholly at a loss how to account for her condition, as I had never known her to be ill during my whole acquaintance with her. I succeeded, with assistance, in placing her upon a sofa. Mustard poultices were immediately applied to the feet, and spirits of hartshorn held to the nose, but we had scarcely laid her down, when she expired.

Post-mortem Examination forty hours after Death. There was lividity on many parts of the body, apparently from gravitation, the lividity being chiefly observable on the under surface. Very little fat beneath the skin. *Head.* The vessels of the scalp were somewhat congested. The skull presented no remarkable appearance. The dura mater was slightly adherent to the inner table of the skull on the left side. Some fluid blood was found lying between the skull and the dura mater. The arachnoid membrane was somewhat opaque, and there was a considerable quantity of thin serous fluid effused beneath it; the veins of the pia mater were congested, especially in the posterior part of the

brain. The brain itself, with the exception of being a little softer than is usual in persons of the age of the deceased, was quite healthy; and the only appearances worthy of notice were the effusion of some fluid and the congested state of the meningeal vessels above described. *Chest.* The lungs were quite healthy, with the exception of slight congestion. The heart appeared externally to be larger than usual, but not remarkably so. There was very little fluid in the pericardium. The right auricle and ventricle, with their valves, were perfectly healthy. The left auricle was also healthy. The mitral valves were thickened by a deposition of semi-cartilaginous substance. The parietes of the left ventricle were very much thickened, but the cavity was of the usual size. The aortic valves were found very much diseased, and on looking at them from above downwards from the aorta, they appeared completely to close the passage. They were found to be converted into masses of bone, which nearly filled up the valvular orifice, leaving only a small chink for the passage of the blood. These bony masses were rough and nodulated, and were deposited apparently within the sinuses of the valves, and one portion of great size extended from one of the valves down into the cavity of the ventricle. The lining membrane of the aorta also presented a great number of bony plates. *Abdomen.* The liver presented no remarkable appearance. The stomach was full, the deceased having eaten her dinner a short time before the fatal occurrence. The kidneys were congested, and their cortical substance presented a somewhat granular appearance.

In this case of remarkable disease of the valves, the patient had enjoyed almost uninterrupted good health, and was in much better health, indeed, than most persons at her age. Nor can it be said that her immunity from unpleasant symptoms, and the delay of the fatal termination, was owing to care on the part of her friends, or to the indulgence of rest; for she was a person of great activity, both of mind and body.

The next case, however, is the most satisfactory of all; for the patient, who suffered from Valvular Disease of the Heart to an enormous extent, actually lived to the age of *eighty-three!* and died, eventually, of another complaint. With the history of this case I was well acquainted. I made the diagnosis of serious Valvular Disease nearly ten years before her death; and in the spring of this year, 1850, I had the gratification of confirming the correctness of my diagnosis, as well as of strengthening the opinion which I have been lately induced to entertain, that Valvular Disease, to a very great extent, *may* exist without shortening human life, or much impairing its comfort. I brought the heart, with a great portion of the aorta, and of the arteries of the head, to the Westminster Medical Society; and those who were present on the occasion will recollect the immense accumulation of osseous matter in the aortic valves, along the course of the aorta, and in the carotid and cerebral arteries.

Case III. Extensive Disease of Aortic and Mitral Valves. Death at the age of Eighty-three. Grace Darton died on the 4th April, 1850, æt. 83. The history of the case was as follows. The patient was a thin, emaciated woman, of a pale complexion, and mild, submissive appearance, who had long been an inmate of the Islington Workhouse.

I began to attend her in 1840, and had seen her from time to time since that period. She stated that she had had several attacks of rheumatism previously to my attending her, and that she had been bled three or four times for those attacks. She had not suffered from any of those symptoms which are usually considered among the prominent rational indications of Heart-Disease; such as swelled legs, palpitation, shortness of breath, etc.; and although she came into the infirmary at various times, for several ailments, it was never on account of any cardiac symptoms: and it was only by auscultation that I became aware that she had any affection of the heart. In fact, I was disbelieved as to the existence of any serious disease in her heart; and although I frequently recommended that she should be kept in the infirmary, and be constantly under medical superintendence, my recommendations were disregarded.

In the year 1840, (æt. 73,) she had an attack of diarrhœa in March, which readily yielded to medicines. In August, she had an attack of chronic rheumatism, for which she was ordered a dose of calomel and jalap, and a purgative mixture: under this treatment she recovered, and was reported cured on the 11th of September.

Feb. 8, 1841. She had an attack of influenza; for which she was ordered a mixture, consisting of tinct. hyoscyani ʒij, sulph. magn. ʒss, inf. sennæ, aq. menth. āā. ʒiij. During this attack she had some dyspeptic symptoms, for which she took carb. of magnesia, with sulph. of magnesia, and aqua menthæ. She was reported cured on Feb. 20.

January 1842. She was seized with an attack of catarrh, for which she was treated with mild purgatives: but an attack of chronic bronchitis supervened, for which a blister was applied to the chest, and she was ordered to take gr. xij of ipecacuan immediately, and afterwards to take the following: ℞. vin. ipecac. ʒiij; sulph. mag. ʒij; inf. sennæ ʒvj. Sumat coch: ij magna 4tis horis. During this attack the state of the heart and lungs was particularly examined, when it was found that, besides mucous, sibilant, and sonorous rattles over the lungs, there was a loud rasp sound over the region of the heart. This sound was very loud, and much prolonged, taking the place of the first natural sound, and almost obscuring the second. This sound was heard most loudly over the base of the heart, and extended over the region of the arch of the aorta, and the right side of the neck. The impulse of the heart was not stronger than natural; pulse 80, regular. I should here notice that the pulse was always regular, and feeble, whenever I examined it. The treatment was directed, in the first place, to the relief of the bronchitic symptoms, which were removed by the measures indicated above, and by others of the same nature; and on the 4th of Feb. 1842, the expectoration had diminished, and the râles had disappeared. The rasp sound, however, still remained as loud as ever, and I was convinced that the woman had confirmed and serious disease of the aortic valves. I thenceforward, therefore, always adopted a somewhat tonic method of treatment; recommending vegetable tonics, with light nutritious diet, and avoidance of exertion.

May 30, 1842. She had an attack of lumbago. A mixture was thus prescribed:—℞ vin. colch. ʒij; inf. gent. co. ʒvj. Sum. coch. ij magnæ 4tis horis. Under this treatment she was again reported

cured. On the 19th of October 1842, she had an attack of English cholera, which was successfully treated by carbonate of magnesia, and sulphate of magnesia in peppermint-water. On the 2nd of July 1843, she had an attack of common fever, from which she suffered for a week, but eventually recovered, by the use of febrifuge medicines, and diluent drinks.

Sept. 8, 1845. She had a cutaneous eruption, attended with great itching, which I determined to be *prurigo senilis*. This was treated by mild aperients.

June 12, 1846. She had another cutaneous affection, attended with itching, which I regarded as lichen, and for which I ordered her twenty minims of liq. potassæ, in one ounce of compound infusion of gentian, three times a day. This treatment was continued till the 17th of June, and the eruption disappeared.

Oct. 5, 1846. She now complained of faintness, nausea, want of appetite, and a disagreeable taste in her mouth. She said that she had lately suffered from palpitation of the heart, and difficulty of breathing, when she exerted herself. She passed her water freely; never spat any blood; and had no swelling of the legs: bowels open, tongue clean, no thirst, pulse 58, quite regular, and weak. *Physical Signs.* The impulse of the heart was not increased, but the loud, sawing murmur was heard over the base, completely superseding the first sound, and was much prolonged; but a second, though much shorter murmur, was heard after it. Towards the apex of the heart, this murmur was also heard, but not so distinctly; it was distinctly heard over the region of the arch of the aorta, and over the right carotid artery. The diagnosis was still, of course, that the chief disease lay in the aortic valves. She was directed to take a moderate diet, consisting of mutton-broth, bread, milk, and tea; and to take the following medicine: ℞. Acidi sulphurici diluti, ♏v.; inf. gent. co. ʒi. Quartis horis sumend.

Oct. 7. Much the same; dyspeptic symptoms remain; she complains of great faintness. She was ordered, in addition to the above treatment, to have half-a-pint of porter daily, and to remain in the infirmary.

From that time, until very lately, I had not many opportunities of seeing this woman; and I heard that she died (without manifesting any particular symptoms beyond those resulting from her great age) on the 4th of April 1850, aged eighty-three.

Post-Mortem Examination thirty-six hours after Death. The body was emaciated; the legs were slightly œdematous; right side dull on percussion. *Head.* Scalp natural; cranium very thick, especially at its posterior part; sutures all obliterated; dura mater healthy, very firm, and dense; arachnoid membrane of a pearly, opalescent appearance, due to the presence of serum below its surface, which escaped on making an incision. The brain itself was moderately healthy; no softening, nor extravasation, in any part; arteries of the brain rigid and patent, owing to osseous and cartilaginous deposition,—this was especially the case in the ophthalmic, vertebral, and internal, carotid arteries; very little fluid in the ventricles. *Chest.* Left lung appeared of its natural colour and consistence; right pleural cavity contained a large quantity of fluid. About ʒxx of serous fluid were removed from this part; and in the fluid there was a

large mass of coagulable lymph, very soft, and of the consistence of thin jelly. Right lung healthy, and crepitant at the apex; but below, the texture was of a very dark colour, friable, and heavy, so that it sank in water. On cutting into this portion of the lung, it was found very much congested, did not crepitate, and, on squeezing it, a bloody serosity flowed out. On this side, therefore, there was acute pleuro-pneumonia, which was probably the immediate cause of the woman's death. The heart, seen *in situ*, occupied its natural position, and the apex was placed between the fifth and sixth rib. After removing the lung on each side, the heart, with the arch of the aorta, the innominata, the left subclavian and carotid, and the whole of the thoracic aorta, were all carefully dissected out, and removed together. The right auricle was natural; the tricuspid valves were patent, and admitted three fingers; but the attached margins were rather hard, and thickened. The semilunar pulmonary valves were natural; but the orifice was somewhat contracted. The left auricle was natural; the mitral valves admitted two fingers, but they were thickened and hardened, and contained a considerable quantity of osseous matter; the walls of the left ventricle were rather thickened, but not very considerably. The aortic valves were completely rigid, and converted into bone; and they met in the centre, leaving only a small chink at their juncture in the middle line. Looked at from above, the valves were seen stretched across the aorta, and each of the valves contained, in its sinus, a large mass of bony deposit. The ascending and transverse aorta were very much dilated, being, at least, twice their natural diameter; the innominata was also very much dilated. The lining membrane of all these parts was most extensively diseased, part being converted into atheromatous matter, part exhibiting numerous plates of bone, and part being ulcerated. These appearances were found in many other arteries,—not only in the cerebral arteries already described, but also in the subclavians and carotids. *Abdomen.* Liver congested, of very dark colour, and friable; spleen very small, congested; kidneys small, but not apparently diseased.

This, then, was a case of extensive Valvular Disease of the Heart, in a patient who suffered hardly any of the rational cardiac symptoms, but who was attended, at different periods, for various ailments, as diarrhœa, chronic rheumatism, catarrh, chronic bronchitis, lumbago, prurigo senilis, dyspepsia, and, finally, died at the advanced age of eighty-three, of an acute attack of pleuro-pneumonia.

1. General Remarks. The cases which I have ventured to bring before the notice of the Society, are of very considerable practical importance. Whatever theoretical views may be entertained to account for the endurance of life, and the possession of a moderate degree of health, under circumstances apparently so unfavourable to either, it is impossible to deny that the facts themselves are of great value.

In the first place, if it can be proved that actual organic Disease of the Valves of the Heart may exist for a considerable period, and without shortening the average duration of life, such a conclusion may tend to divest this class of maladies of some part of the terror which their existence now so commonly inspires; and a patient, who is unfortunately

labouring under a disease of this description, may nevertheless be encouraged by the reflection, that a Disease of the Heart, although of a decidedly serious character, may not prematurely put a stop to his career. And if such be the consolation which may, I think, fairly be afforded to those suffering under confirmed and extensive disease, how much more applicable is it to those who are affected only by some of those minor affections of the heart and its valves, which occur so frequently among the sequelæ of rheumatism?

In the second place, the subject is one of great importance in its relation to the average duration of human life, and the practice of life insurance. The existence of any disease of the heart is, I believe, an insurmountable barrier to effecting a policy of insurance; but I think it probable, that in proportion to the accumulation of facts bearing upon the subject, the deductions drawn only from the physical exploration of the heart, will not be so exclusively regarded as they have been of late years. But upon this point I wish to be understood as offering a very guarded opinion; for I have no wish whatever to undervalue the importance of the information derived from auscultation; nor do I pretend to assert that the existence of cardiac disease is a matter of slight moment. All I presume to argue is, that cardiac disease, even of a very decided and extensive character, *may* be compatible with long life and with moderate health.

2. The Treatment of Valvular Disease of the Heart is a subject of too great extent and importance to allow me to offer more than a few very general observations in the present paper. Notwithstanding the opinions which I have ventured to express, I consider the existence of Disease of the Valves to be a matter deserving the closest attention of the practitioner, and the most zealous application of the resources of his art. Hence it is essential that the disease should be checked, if possible, at its *commencement*.

> "Principiis obsta; serò medicina paratur
> Cum mala per longas convaluêre moras."

In the early stage of Valvular Disease, the stethoscope is invaluable; it gives us the earliest intimation of its existence, and we are supplied with means for its repression. The patient suffering under the agonies of articular rheumatism is often unconscious of the mischief going on at the fountain-head of life; the stethoscope reveals the latent evil—vegetations of albumino-fibrine are encrusting the surface of the valves—but the judicious administration of mercury causes the absorption of the peccant lymph, and the channel of the blood is restored. And even when the disease of the valves is unfortunately confirmed, medical appliances may do essential service in alleviating the sufferings which often ensue, and in delaying or averting the fatal catastrophe. The palliative measures which ought then to be adopted, it is almost unnecessary to insist upon. The injunction of the necessity of rest, both of mind and body, will be frequently repeated; and the state of the digestive system will, of course, form a prominent subject of inquiry and of treatment. The use of digitalis, which I believe to be of the utmost value in some of the organic Diseases of the Heart, is, I think, contra-indicated in most cases of Valvular Disease, in which the current of the

blood is diminished, and the vital energies consequently impaired; in such instances, digitalis must undoubtedly do more harm than good, by lowering the force of the heart, and still farther enfeebling the circulation. In such cases, it is better to rely upon those measures which are calculated to strengthen the system, and to stimulate the heart to propel the blood through its diminished channel; and I adopt a somewhat tonic system of treatment under such circumstances, as the best calculated to counteract the effects of the valvular obstruction.

8, Torrington Square, October 1850.

CASE OF SOFTENING OF THE CERVICAL PORTION OF THE SPINAL CORD.

By EDWARD C. SEATON, M.D.

[*The substance of the following Communication was read before the Western Medical and Surgical Society of London, October* 4, 1850.]

It is remarked by Dr. Graves, that "Inflammation of the Spinal Marrow is a disease so liable to be confounded with a great variety of painful affections, that every ascertained case of it ought to be recorded, for the purpose of rendering more perfect a department of pathology already diligently, but not completely, cultivated." Obeying the injunction laid down by this great authority, and believing that the following case is not without its points of special interest, I venture respectfully to submit it to the notice of the profession through the pages of the London Journal of Medicine, in which so many valuable contributions to our knowledge of Diseases of the Nervous System have lately appeared.

Mr. H. W., æt. nearly 50, by trade a wholesale and retail cheesemonger, and a man whose circumstances enabled him to command every comfort of life, consulted me on the 29th of July 1848. He was a spare man and rather short, of very temperate habits, married, and the father of a large family. He had enjoyed good general health, though he came of a rheumatic stock, and had himself suffered occasionally from rheumatic pain. During the preceding year and a half or two years, he had noticed that his urine was frequently turbid, and he had had one or two attacks of gravel. The complaints for which he sought relief of me were stiffness in the arms and thighs, and excessive debility on undertaking any exertion, so that he was hardly capable of lifting anything, and could not work in his shop for half an hour without becoming tremulous and unable to continue his labour. He had frequent cramps in his legs, but no persistent pain anywhere. At all times irritable in temper, he had become latterly much more so. His appetite failed him of a morning, but not in the latter part of the day. He said that his digestion was good, his bowels regular, and his urine at present clear. His pulse was feeble.

At the end of a fortnight his condition was the same. I thought I

noticed one day a tendency to droop in the left eyelid; but if this condition really existed, it must have been very transitory, for it was never afterwards observed. There was no difference as to sensation and power between the two sides of the body, and there were not then, as there were not indeed at any period throughout the case, any head symptoms.

He went into the country for a week, and his symptoms disappeared, but came back almost immediately on his return to town. The stiffness and debility, however, were now *confined* to the upper extremities (in which they had all along been most pronounced), and were felt chiefly of a morning when he *began* to work, or at any time when he *began* to take exertion: and he specially remarked to me that as soon as he got warm in walking, the stiffness went off, and he became comparatively strong, and that as soon as he got warm in his bed at night, there was absolutely nothing whatever the matter with him. A variety of treatment was tried with little or no impression; and on the 11th of September he again went into the country.

I next saw him on the 27th of November, when the pain and stiffness were increased in the upper arms, and had once more attacked the thighs. They were still influenced in the same manner by temperature. I had had some doubts, when I first saw him in July, as to the nature of the case with which I had to deal; but, after twice or thrice seeing him, I satisfied myself that the symptoms were more those of chronic rheumatism than of any other disease, and the treatment then had been adapted to this view of the case. Feeling now no reason for changing my diagnosis, I gave him again antirheumatic remedies, but of other kinds, which were continued till the 26th of December without any benefit, when he resorted, of his own accord, to cod-liver oil.

This was taken for two months, by which time (Feb. 26, 1849) his former symptoms were aggravated, and new ones superadded. The pain, stiffness, and powerlessness were greatly increased both in the upper and lower extremities, but were still confined nearly entirely to the *upper* arms and *thighs*. In these also, sensation was benumbed, and he said they felt to him as if stuffed out with straw. He had tripped many times of late, and fallen occasionally when walking, and he could not lift his feet far from the ground; *warmth, however, still relieved his pain and gave him power*. The cramp, of which he had all along had more or less, had been excessively troublesome to him lately. My original doubts as to the real nature of the case now returned with increased force; and I requested the opinion of Dr. Bright. We examined together with great care, as I had often done by myself before, the whole length of the spine, but found no tenderness whatsoever; neither did he refer to it any sensation of pain. But he informed us of this important fact (which he had not hitherto remembered, or had not thought of in connexion with his disorder), that about a fortnight previously to his first consulting me he had fallen forwards on the deck of a steam-boat, alighting on the palms of his hands, the arms being stretched out, and that he had thus received a shake which he felt through his whole system. On a review of the entire case, Dr. Bright was inclined to regard it as probably one of chronic inflammation of the spinal cord, or its

membranes, and recommended a succession of blisters down the spine, and the administration of bichloride of mercury.

This plan was pursued for a fortnight with no amendment, but rather increase of the symptoms: and it may serve as an illustration of the great difficulty of arriving at a satisfactory diagnosis of the case, that on a second careful examination at the end of that period, Dr. Bright considered it one of chronic rheumatism, and he mentioned to me a case in which the stiffness and the pain, and the powerlessness had been more pronounced, but which had eventually entirely recovered after anti-rheumatic treatment. He therefore recommended a return to remedies of this kind, and they were pursued steadily from 16th March to 24th April.

On this latter day, as he had made no progress, and his general appearance was anæmic, Dr. Bright recommended a trial of iron, and the mist. ferri comp. was administered in doses of ʒvi. three times a day. He became more powerless and felt much worse after commencing this medicine; he suffered from a sensation of gnawing and sinking about the præcordia, and his hands became daily more useless and were invaded by cramp. His urine deposited lithate of ammonia in large quantity. The iron was therefore discontinued, and salines substituted.

During the next fortnight, though the urine became clear, and the sense of sinking disappeared, more and more ground was lost, and some symptoms appeared which left the seat of the disease no longer doubtful. A difficulty in getting out his words, and, on some occasions, a difficulty in masticating and swallowing, pointed to some affection of the upper portion of the Spinal Cord or of the roots of the nerves:—and this was the diagnosis given by Dr. Watson, who was now consulted. It seemed more difficult to state precisely what the nature of that affection was. There had never been, and was not, the smallest pain referable to the cord itself, nor tenderness of any portion of the spine. His leading symptoms had been all along those of diminished and not of increased action; his pulse was always very feeble, and his appearance throughout pale and anæmic. Dr. Watson thought that a tonic regimen was indicated, and gave him first nitro-muriatic acid with tincture of lytta, and afterwards the sesquichloride of iron. He still got no better.

On the 23rd of June he was seen by Dr. Pidduck. On now examining the spine, a spot was found very tender over the atlas vertebra, and our patient said that for some months past he had felt severe pain there whenever he lifted his head from the pillow suddenly or without support. But I think that his recollection as to the duration of this symptom must have been at fault; for he had so repeatedly been questioned about pain and always denied it. He experienced even now no pain or difficulty in rotating, flexing, or extending the head. Dr. Pidduck agreed in the opinion that there was an affection of the Cord, but believed it to be of an inflammatory nature—the result of the injury received in the fall a week or two before the accession of the first symptoms. He recommended perfect rest, leeches to the tender part, and an alterative treatment.

The leeches were applied the next day, and that night, being the first night for many months, *he had no cramp*. On the 1st of July,

four more leeches were applied, and he had next day less numbness and more power of his arms, so that he was able to lift his cup to his mouth without assistance, (this he had not been able to do before for a long while). After this, he had leeches on several times, with the general result of diminishing his nervous irritability, and perhaps alleviating the pain felt in his thighs and arms, but with no further benefit; and the weakness increased. This was his condition up to the 28th of July, after which, in consequence of his having removed to a considerable distance from my neighbourhood, I only saw him occasionally,

The remainder of the history is soon narrated. The amendment which leeches and the antiphlogistic regimen at first produced not having continued (except that the cramp never returned), he was induced to try galvanism. After this, by the advice of Mr. Lonsdale, he had a seton. I saw him on the 21st of December, much more helpless, having been confined to his room for two months: he was then about to try homœopathic treatment. His homœopathic attendant, unable to relieve him, soon transferred him to his brother, a spinal surgeon, by whom he was induced to leave his comfortable home and become an inmate of a spinal institution. Here, though he received from day to day the flattering assurance that he was improving, he became more and more hopelessly paralytic, and died from exhaustion on the 27th of February, 1850.

Post-mortem Examination. His body was removed home, and an examination made sixty hours after death (on March 2, 1850), by myself, in the presence of Mr. Derbyshire and Mr. Theophilus Taylor.

The body was emaciated. The head and spine only were examined. The surface of the cranium was very exsanguine; the skull was rather thick and firmly adherent to the dura mater. The pia mater was rather congested. The brain itself, cerebellum, and medulla oblongata, were quite healthy; the ventricles were empty. The arches of the vertebræ in the centre of the back (about the sixth and seventh dorsal) were a little softer than natural, the rest were of the usual firmness. The theca spinalis was distended with serous fluid; the arachnoid lining it was quite transparent. The Spinal Cord was not unusually vascular, but healthy apparently, except about two inches of its cervical portion, beginning not quite two inches below the pons Varolii. This was softened into a putrilage, without any appearance to the eye of nervous structure. Examined under the microscope immediately afterwards, by Mr. Clover, of University College, it was found to contain exudation corpuscles in moderate abundance; but no pus globules.

Remarks. The foregoing is one of a class of cases which are alluded to by Dr. Abercrombie[1] as presenting instances of a remarkable modification of ramolissement of the Cord; were described more particularly by Dr. Darwell in 1830, under the designation of a peculiar species of paraplegia; and which formed the subject of a portion of the interesting Gulstonian Lectures delivered by Dr. Gull before the Royal College of Physicians in 1849, and were by him termed, not inaptly, cervical paraplegia.[2] There are many cases of this form of disease now on record.

[1] On Diseases of the Brain, etc. Fourth Edition, p. 345.
[2] Lecture III. Medical Times, vol. xix, p. 505.

They agree generally in this, that it is in the superior extremities and adjacent organs that the symptoms first manifest themselves, the lower extremities being affected at a later period, or not at all; that the deltoid and muscles of the shoulder are those which suffer first; and that in a limb, the parts next the trunk are earlier and more completely paralytic than those more remote; the upper arm, for example, than the fore arm or hand: but their progress is by no means uniform; their duration and mode of termination are very uncertain, and their pathology is still a matter of doubt and obscurity.

The pathological explanation of them which is given by Dr. Abercrombie, is this: that they are dependent on disease of the Cord analogous to a form of disease of the brain in which there was originally inflammatory action of a low chronic character seated in a small part of the cerebral substance. "This," he says, "may continue for a considerable time in a state of simple inflammation, and subside; or it may terminate in a permanent change in the structure of the parts, generally with some degree of induration, in which condition it is found when the patient dies of another disease, but if it is itself the fatal disorder, it seems to be so by passing either into ramollissement or into partial and unhealthy suppuration." "It is probable", he adds, "that the same character of disease takes place in the Spinal Cord; and it is found in the same manner sometimes in a state of ramollissement, sometimes in the state of induration, and sometimes one part is found indurated and another softened."[1]

A totally different view of these cases is presented by Dr. Gull. The disease is regarded by him as one not having its origin in the nervous centres at all, but in the periphery; "a primary affection", he says, "of the muscles", or an affection both of muscle, and of the nerve distributed to it; and he thinks that the disease spreads by travelling to adjacent muscles (and I presume in cases where ramollissement takes place, to the Cord), through the neurilemma. The cases which he cites in illustration of this position are ten in number; five of which were recorded by Dr. Darwell, and five occurred under his own observation. With one exception, they were all due either to a strain, or a blow upon the particular muscle or muscles, or to rheumatism. None of them had been fatal, but several had not terminated at the period of the report. It had been already contended by Dr. Graves,[2] that ramollissement and structural degeneration of the spinal marrow might arise, especially in the gouty diathesis, from the extension of inflammation from the extremities of the nerves along the neurilemma. He asserts this generally, and not with special reference to cervical paraplegia: but one of the cases narrated by him resembled this disorder, in the arms being affected for two months before the lower extremities, differing from it, however, in so far as the affection began in the fingers and extended up the arm.

The facts of the present case would seem, at first sight, to be not inconsistent with this view of the subject. My patient was of a rheu-

[1] Op. cit., p. 348. Dr. Abercrombie offers this as a *general* explanation of chronic ramollissement, whether commencing in, or confined to, the upper extremities (cervical paraplegia), or commencing in the lower.

[2] Clinical Lectures, vol. i, p. 475.

matic family, and had himself had, occasionally, rheumatism. The disease first made its appearance in the muscles which elevate the arms, and, excepting a transitory affection of a similar kind in the muscles of the thighs, was confined to them for nearly four months: the stiffness and want of power of which he complained, resembled rheumatism, by disappearing when the body was heated: and even when, at the end of six months, the affection had extended over the limbs generally, it so closely simulated this disease, that one of our most experienced physicians was unable to make a satisfactory diagnosis. In the view taken by Drs. Graves and Gull, the disease would all this time have been local; it would, about the period to which I have just referred, have invaded the Spinal Cord, by extension along the neurilemma, and would have caused that aggravation of existing symptoms and appearance of new ones, which took place about this time, but which did not, until nearly a twelvemonth afterwards, lead to a fatal termination.

But a closer examination of all the phenomena manifested, will, I think, show that a fuller and more accurate explanation of them is afforded by the older hypothesis. The commencement of the disease by the equal and simultaneous affection of both arms, coincident with an affection of exactly similar character in the thighs, appears to me to point to some central, or, at all events, some general and constitutional cause; and that this was not rheumatism, affecting a number of muscles at a time, seems probable, 1. From the powerlessness being out of all proportion greater than the stiffness and pain; 2. From the disease having originated, apparently, from the shock communicated to the whole system by a severe fall; and 3. From the existence, from the outset, along with the other symptoms, of one which was eventually proved to have been due, in this instance, to direct irritation, or inflammation of the spinal marrow; viz., cramp. I say eventually proved; for, having been one of the most constant, painful, and distressing symptoms throughout the whole course of the malady, and having resisted every remedy, and been scarcely alleviated by any, it at once yielded to the application of a few leeches over the inflamed portion of the Spinal Cord. Nor is it inconsistent with this view, that the symptoms, after three weeks duration, should cease, when my patient went into the country, and that, when he came back to town, they should return in the arms only, the thighs being no longer affected. I presume that, under the influence of rest, change of air, and freedom from excitement, the inflammatory, or congestive condition of the cord was spontaneously subsiding, and would probably have subsided altogether, had not premature exertion recalled it, and caused that, which was at first a diffused state of irritation, or congestion, to become localised as an inflammation in a particular portion of it.

Neither is it inconsistent with this explanation, that power should be restored to the muscles for a while, on excitement or the application of warmth, though it was this symptom, so common in one form of rheumatism, which tended more than any other to obscure the case. Moderate warmth is one of the most powerful excitants both of the muscular and nervous systems; and its influence in exalting the nervous energies, and elevating the vital powers, is referred to constantly by physiological writers.

In a case of Ramollissement, recorded by my friend, Dr. Madden, in the London Journal of Medicine for January 1850, in which anæsthesia was the most prominent symptom, it was observed, that under the influence of a fit of excitement, followed by an attack of erysipelatous fever, the sensibility was greatly increased. "Was this", he pertinently asks, "due to the cerebral excitement? or might not the quickened circulation, in which the cord, in common with other organs, must have shared, have stimulated for a time its half-destroyed energies?"

And, lastly, it is no objection to this explanation, that so long a time should have elapsed before pain, or tenderness, of the spine came on. Little reliance is to be placed on these as signs of inflammation, or ramollissement of the cord. Of six cases occurring to Dr. Abercrombie, they were absent altogether in two, and there was pain only on pressure in one. And of eleven cases of inflammation, ramollissement, undefined suppuration, or abscess, to which he refers, they were absent, or not mentioned as being present in eight; and mentioned as present in only three. In my own case there was some evidence of an inflammatory state of the cord, in the remarkable aggravation of the symptoms caused by the administration of steel, for months before pain was complained of, or tenderness observed.

The conclusion to which I, therefore, incline is, that there was in this case, from the commencement, a state of low inflammatory action in a portion of the Spinal Cord, which, whether it did or did not pass through the series of changes presumed by Abercrombie, ended, at all events, in inflammatory softening. Whether this view be right or wrong, and whether the disease in question be central or peripheral in its origin, is obviously not a matter of mere pathological curiosity, but one of the deepest practical importance. By applying our remedies away from the real seat of the disorder, we are not only losing time, but are losing, probably, the only opportunity we have of effectually relieving; for when the series of changes, which we denominate softening, has once taken place, we know of no means whereby the nervous structure may be restored to its integrity.

I am far, however, from wishing to extend the conclusions I draw from my own case to *all* cases, or to say that cervical paraplegia *may* not have a peripheral origin. I assert only that such is not invariably, nor, I believe, very frequently the case, and that, therefore, it is not a correct statement of its pathology to say that it is a disease primarily of the muscular tissue. Of the five cases occurring under his own observation, which Dr. Gull has related in his Gulstonian Lectures, three had symptoms indicative, more or less, of disease of the nervous centres. In the first, there was, during the whole course of the case, pain in the head, which was stated to have been peculiar, and to have originated apparently in the upper part of the neck. In the second, there was weakness, though transitory, of the legs, and an equally transitory numbness in one side of the face. In the fourth, there was uneasiness low down in the neck, on flexion or rotation of the head, and the patient was improving on a treatment, directed under the idea of disease of the the spine, when he got an attack of rheumatic fever, after which his paralysis was so greatly relieved, that he was able to return to a very laborious occupation.

77, Sloane Street, October 1850.

ON THE EXISTING STATE OF OUR KNOWLEDGE OF VACCINATION AND REVACCINATION, AS PREVENTIVE OF SMALL-POX.

By ALEXANDER KNOX, M.D., Physician to the Dispensary, Strangford, County Down, Ireland.

The preventive influence of Vaccination, questioned even at the period of its discovery, and especially from the year 1804 onwards, has acquired additional claims to the most careful and dispassionate consideration, from the increased prevalence of epidemic Small-pox of late years. A re-examination of the subject, therefore, would appear peculiarly appropriate, not only with the object of attempting to satisfy the natural anxiety of the public, but also with the hope of contributing to a greater unanimity of professional opinion on the questions—*How far does the artificial Cow-pock actually secure the constitution against a subsequent attack of casual Small-pox?* and, *Whether it is possible, by any means, to confer an additional degree of security?*

To the examination of a subject, manifestly of the greatest practical importance, not only intrinsically, but as occurring to us almost daily in our professional life, I shall therefore address myself with all the deliberate attention and impartiality which the difficulty of the investigation properly demands.

1. Casual Small-pox—its horrors—proportional attacks, and mortality—leading to the practice of variolous inoculation. History of Inoculation—its phenomena, and effects in abating the ravages of Small-pox—replaced by Vaccination, or the artificial production of Cow-pock.

Casual Small-pox. It has been disputed by writers of the highest authority in medicine, whether Small-pox was known to the ancients; the affirmative of the question having been maintained, by Rhazes, Salmasius, Willan, Baron, and others; whilst, on the opposite side, are found the names of Friend, Mead, and Good,—no mean authorities on such a subject. But there is too little of practical utility in the question, to induce us to take part in its discussion. Rhazes, who wrote in the ninth century, appears to have been the first to treat distinctly of the disease, although the occurrence of both Small-pox and measles as early as the year 572 (the era of the birth of Mohammed), is expressly mentioned in an Arabic manuscript,[1] preserved in the University of Leyden; but, whether that document be certainly genuine, or not, at all events, from the allusions made by Rhazes to the opinions of Ahron, and others of his predecessors, we cannot err in dating the appearance of Small-pox anterior to the period of the Hegira, as it frequently broke out, during the seventh century, in the wild, fanatic legions led forth by the great prophet of Mecca, to propagate the doctrines of the Koran by the edge of the sword. Thenceforward, at all events, Small-pox has proved one of the most destructive of human maladies, whether appearing in its sporadic form, or in those terrible epidemic irruptions, in which it has smitten its victims as fatally, as numerously, and scarce

[1] Hamilton's History of Medicine, vol. i.

less suddenly, than the destroying angel who passed of old over the doomed hosts of the Assyrian camp.

A few illustrations of what we have asserted will suffice. When introduced into Mexico, not long after the discoveries of Columbus, this fearful pestilence cut off, within a brief period, not less than three millions of the unfortunate natives; and it is well known, that whole tribes of the Red men of Western America, who, from this and other causes, are fast disappearing from the footfalls of their fathers, have been swept away by the same malady. In England, 40,000 individuals are said to have perished annually; and two millions, on one occasion, in Russia in a single year. Haygarth attributed to this cause one half of all the deaths taking place in children under ten years of age; and, of all persons attacked by Small-pox, one-fourth, or at least one-fifth, are believed to perish; whilst, according to the experience of Dr. George Gregory, the mortality is even greater than this. At the Small-pox Hospital, for the last half century, the fatal cases have ranged from eighteen to forty-one in the hundred; averaging, on the whole, about thirty per cent.[1] Nor is this all, for one attack of the malady, even in its severest form, does not invariably protect the survivor from a second, as is clearly shown by ample experience. The extent of this consecutive liability, however, has been variously estimated by different authorities: thus, the proportion of secondary attacks of Small-pox, to the primary, is computed, by La Condamine as 1 in 50,000; Heberden, as 1 in 10,000; other authorities, as 1 in 8,000; Eichorn, as 1 in 250; and Mohl, in his description of the Copenhagen epidemic, asserts that every sixth person who suffered from the disease, had it for the second time.

The calculations just quoted are evidently too widely discrepant to do more than establish, generally, the fact, that the disease may occur a second time; and, on some occasions, as in the Danish physician's experience, in a high proportion; but they shew conclusively, at the same time, that we have no data for determining any law as to the frequency of the occurrence. The general proposition, however, of the liability to a second attack, was known as early as the times of Rhazes and Avicenna; and probably there are few practitioners who are not, from their own experience, cognizant of it; but, at all events, Baron, in his life of Jenner, alludes to no less than one hundred and thirty different writers, who have given examples of this occurrence. Were it necessary to strengthen the evidence on this point, we might refer to the reports of Heim and the Wirtemberg physicians, showing, that of 297 persons who bore evident marks of the Small-pox, Vaccination failed in only 126 cases, succeeding perfectly in 95, and affecting the remaining 76 in a modified form. Indeed, the entire statistics of the authorities referred to, show that more than a half of all the individuals operated on, after Small-pox so severe as to leave their persons marked by scars, had again become liable to the disease. In coming to this conclusion, they assume, perhaps correctly, that susceptibility of the contagion of Cow-pock indicates an equal liability to that of Small-pox: this, however, is a debateable question, to which we shall return hereafter. But not only is the possibility of the recurrence of Small-pox, in the

[1] Cyclopædia of Practical Medicine. Art. "Small-pox", p. 742.

same individual perfectly established, but equally so the fact, that the secondary attack may be extremely severe, and even fatal. A well-known instance of this unfortunate result occurred in the person of Louis XV of France; and at least one fatal case has happened within our own observation. The experience of Macintosh supplied twelve instances of secondary attacks; and he adds, "all my cases of secondary Small-pox, with the exception of two, have been remarkably severe, whereas, I have not seen a severe case after Vaccination." And when to the fearful mortality just described, are added not only the virulently contagious nature of the disease, but the long catalogue of melancholy results which follow in its train, including tubercular consumption, various forms of scrofula, hideous disfiguration of the countenance, and blindness, it may readily be believed that any feasible plan of mitigating its horrors was calculated to excite intense interest; and this plan was found in the practice of variolous inoculation.

Variolous Inoculation. The artificial production of Small-pox by Inoculation, is a practice alleged to have existed amongst the Chinese and the inhabitants of Hindostan from remote ages, and to have been also long known to the people of various countries of Europe; but its power of ameliorating the virulence of the casual disease was first formally announced in a communication made to the Royal Society of Edinburgh, early in the eighteenth century. About the same period, the observations of Pylarini, Venetian consul at Smyrna, and a notice of the letter of Dr. Timoni, on Inoculation, written from Constantinople, were published in the *Philosophical Transactions.* Further attention was drawn to the subject by the writings of Mr. Kennedy, but without any practical effect, until the pen and personal influence of Lady Mary Wortley Montague seriously attracted the notice of the public. The practice of Inoculation, thereafter, gradually made its way in England, although violently opposed by many eminent members of the medical profession, and denounced from the pulpit as the offspring of atheism, and a diabolical invention of Satan. Subsequently, however, to the year 1730, it fell into almost total disuse in these kingdoms; and was actually prohibited by law in France. In 1754, a declaration was made by the London College of Physicians in favour of the practice, but without any decided effect, until its successful results in the hands of the Brothers Sutton rendered it generally popular for some time. In 1746, the Small-pox and Inoculation Hospital of London was founded, for the purpose of extending the benefits of the discovery to the poor; and the results, in that establishment, were favourable. In the following year, Inoculation was powerfully supported by the influential pen of Mead;[1] and Baron Dimsdale[2] followed the Suttons with much success. His plan of operating, which has not been improved on, was generally adopted for the next twenty years, and with increasing popularity, until Jenner, in 1798, announced to the world his great discovery of Vaccination. Since that period, the general practice of Variolous Inoculation has fallen into disuse.

With reference to the individual, the advantage of Inoculation, however, was fully established. It abridged, by several days, the incubative stage of the disease: it lessened the quantity of the eruption; and so

[1] De Variolis et Morbillis. [2] Present Method of Inoculatin for Small-pox.

greatly abated the malignancy of the symptoms, that the deaths in the Inoculation Hospital only amounted to three in one thousand cases, whilst the mortality from the casual disease at that time, and even now, according to Gregory, amounted to *three* in every ten persons attacked by the malady. The following phenomena, usually occurring after Variolous Inoculation, may be contrasted with the unameliorated horrors of the casual disease.

Inoculated Small-pox. About the third or fourth day, a slight redness, and a trifling degree of induration, perceptible to the finger, may be observed at the point of operation. On the fifth day the redness is more vivid; and on the sixth, the cuticle is generally elevated by the effusion of serum, a central depression being observable at the same time. On the seventh day, irritation of the superficial lymphatic vessels occurs, the arm in the vicinity of the puncture becomes painful, and the general symptoms of fever are developed. The eruption, whether local or general, commences to decline from the twelfth to the fifteenth day, after the date of the operation; the pustule being replaced by a scab, which falls off in a week or ten days more, leaving behind it an indelible cicatrix.

The question then arises, why a practice, so manifestly beneficial, came to be almost completely abandoned, at all events, by the medical profession? Several circumstances contributed to this result. It was found, on examination, that the malady produced by Inoculation, although mild in the majority of cases, was not invariably so; for many persons, after the operation, passed through a very severe form of Small-pox; and no inconsiderable number died of the disease thus artificially produced. Like casual Small-pox also, the engrafted malady was found to excite in the system various consecutive disorders, and, especially, to arouse into activity any lurking scrofulous taint. These were serious risks for the practitioner to incur by his own act; and as it was impossible to foresee, in any given case, what might happen, the objection to the production of a disease artificially, which in the common course of events might, probably, never occur at all, became very strong; for, even at the worst, it appeared that a vast majority of the people, without any precautions whatever, escaped altogether an attack of casual Small-pox. Another objection, and, as regards the public, a very weighty one, was the unquestionable tendency of Inoculation, without careful seclusion and proper precautions, to promote the diffusion of contagion. It may be true, as Adams,[1] Watkinson, and Schwenke, have attempted to shew, that the danger has been overrated; but the sources of infection were so much multiplied by the practice, as Dr. Gregory justly remarks, that the casual Small-pox, which formerly visited country places at long and uncertain intervals, was now to be met with in all parts, at all times; 45,000 persons being annually cut off by its virulence.[2]

Experience also taught, that Inoculation, however confidently asserted to prevent a second attack of the malady, had, by no means, invariably this effect; on the contrary, many writers affirm that secondary attacks

[1] Inquiry into the Laws, etc., of Epidemic Diseases.
[2] Cyclopædia of Practical Medicine. Article, "Small-pox."

were more frequent after the artificial, than the casual disease. This last statement has been controverted by the high authority of Dimsdale; but, at all events, as has been more recently shewn by Baron, death occurred in the proportion of one in every fifty of the inoculated.

Inoculation was prohibited, by Royal authority, in France in 1763; but the death-blow to the practice was not given, as already intimated, until the promulgation of Jenner's discovery, about a quarter of a century later.

II. VACCINATION, HISTORY OF—SYMPTOMS AND OBJECTS—ARGUMENTS IN FAVOUR OF ITS PROTECTIVE INFLUENCE—OBJECTIONS—HOW FAR, AND IN WHAT MANNER, IT HAS BEEN SHEWN TO FAIL.

History. After a lengthened investigation of the subject, Jenner first announced, in 1798, in his well-known *Enquiry into the Causes and Effects of the Variolæ Vaccinæ*, that the Cow-pock, having passed through the human system, after being transferred from the teats or udder of the cow, by the process of Inoculation, ever after guards individuals, so operated on, from the contagion of casual Small-pox; and that, by the universal adoption of Vaccination, this dreadful disease might not only be divested of its all terrors, but be finally extinguished from the list of human maladies. Residing at Berkeley, in Gloucestershire, in one of the great dairy districts of England, his attention was first turned to the subject by a knowledge of the popular belief, which he found prevalent, that Cow-pock, when casually transferred to the hands of the milkers, subsequently protected all persons so affected from an attack of Small-pox. And to the establishment of this doctrine, by accumulated observations and arguments, as tending to confer incalculable benefits on the human race, he devoted a great part of the remainder of his long, honourable, and useful life. Jenner did not, however, escape the common fate of great discoverers; for although the majority of the medical profession eagerly and gratefully adopted his views, yet, by a few, the value of his announcement was depreciated, his motives questioned, and even his character maligned. Time, however, has done justice alike to him and his traducers; and even if it could be shewn, unequivocally, that his views were partially erroneous, enough would still remain to entitle him to the undying gratitude of the human race, whilst his ardent desire for the good of his kind, and his patient and Christian bearing under the detraction of his enemies, as well as the untiring industry, the deep sagacity, and profound reasoning, which he displayed in the defence of what he conceived to be true, will for all time to come confer celebrity on his name. "Τό ὄνομα ὄυποτ' ὀλώλει."

In 1799, Vaccination was introduced into America by Dr. Waterhouse; and, in the same year, a testimonial of confidence in the discovery of Jenner was signed by a large number of the most eminent physicians and surgeons of London, including the distinguished names of Cline, Cooper, Baillie, and Abernethy.

In 1800, the practice was adopted in France. Amongst the warmest of its advocates on the Continent, we may enumerate Sacco of Milan, and De Carro of Vienna, by the exertions of the latter of whom, Vaccination reached Bombay, and was thence diffused all over India. As early as 1801, six thousand persons had been successfully vaccinated in Great Britain alone. In the year 1802, a remuneration of £10,000

was voted to Jenner by the British parliament, and a further sum of £20,000 in 1807, sixteen years before his death, which took place in 1823, when he had reached the advanced age of seventy-four years.

In 1833, a Committee of the House of Commons made a report on the Vaccine Board, and on the practice of Vaccination generally, which contained the latest information on the subject, up to the period in which it was drawn up. More recently, the question has been ably discussed in Dr. Baron's *Life of Jenner*, and in the Report of the Committee, appointed by the British Association, to investigate the subject in 1839. Within the last few years, a short Act of Parliament was passed, commonly called the Vaccination Act, with the praiseworthy object of promoting the more general diffusion of Cow-pock, by providing remuneration, to be made out of the poor-rates, for each successful operation. In Norway and some of the other continental kingdoms, Vaccine Inoculation is enjoined by law, and the practice is more or less prevalent throughout every country in the world.

Effects. The doctrines of Jenner have been maintained, since his death up to the present hour, by many distinguished writers, not the least celebrated of whom is Dr. Baron, his able biographer, who was principally concerned in drawing up the Report already alluded to, as emanating from the British Association. The views there advocated will briefly appear, from the following abstract of the petition, founded on the report, and directed to be presented to Parliament: "Your petitioners have learned by the concurrent testimony of a very large proportion of their members, that Cow-Small-Pox, if duly and carefully communicated, has an enduring influence in protecting the constitution; they admit that this protection is not in all cases complete, but they have unquestionable proof of its being capable, if generally and properly employed, of mitigating, controlling, and they might almost say of extinguishing, Small-Pox in any district."[1]

Many observers, however, both on the Continent and these countries, —and the number has been increasing for some years,—only partially subscribe to the doctrine of Jenner, contending that Vaccination, although it may impart the protective influence to an unascertained proportion of those submitted to the operation, by no means does so to all; and that even where imparted, it is liable to wear out, and leave the system again susceptible of the contagion of casual Small-Pox. A few maintain that the Cow-pock, in its most perfect form, confers neither permanent nor temporary protection. In addition to the grand object of destroying the liability to Small-Pox, or at least mitigating its severity by Vaccination, the practice has been advocated, by ascribing to it several subsidiary advantages, the chief of which is the comparative safety of the operation as compared with Variolous Inoculation, both to the individual and the community, from the tendency of the latter to multiply the sources of contagion, and consequently to extend the ravages of the disease.

Minor benefits derivable from the artificial production of Cow-pock, are alleged to be, an occasional tendency to ameliorate the process of dentition, and occasionally to effect a cure of various cutaneous dis-

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[1] See the Report; also, British and Foreign Medical Review, No. xvi, p. 613.

eases. These collateral benefits of Vaccination we shall dispose of first, and thus leave the space clear, for the discussion of the grand question of protective influence.

It is asserted by Heim that the process of dentition is, in many cases, accelerated by the development of the Cow-pock, and Capuron admits, that it is, at least, not rendered more troublesome. Jenner, and several other writers, bear testimony to various chronic affections of the skin having been rendered milder, and even actually removed by Vaccination. Amongst the diseases specified, are scabies, herpes, porrigo, and impetigo; and Valentin adds ophthalmia, and scrofula; nor does there seem to be any valid objection against trying the effects of Vaccination in such cases, provided we do not allow the lymph, resulting from the operation, to be made use of for the transmission of the Cow-pock to others. We do not, however, advise our readers to hope for any very striking success from this practice, as it will be found, in the majority of instances, as unsuccessful in arresting the progress of any severe cutaneous diseases, as it turned out, in the hands of Dr. M'Cormac, when experimenting on its effects, in a case of hooping-cough.[1]

Other advantages possessed by Vaccination are the absence of that tendency to produce, in any case, a number of confluent pustules with their consequent deformity, and to rouse into activity, the germs of scrofula and other constitutional diseases, which is well known to mark the course of Small-pox, whether arising casually, or dependent on inoculation. We are aware that it is alleged, that even Vaccination may produce a deterioration of the blood, and give rise, also, to a variety of cutaneous affections. This alleged deterioration of the blood, however, is a mere hypothesis, and, as such, deserving of no further remark. That boils, pustules, certain cutaneous eruptions, and smart inflammation, may now and then follow the Cow-pock, although rarely, where the health of the patient is in a satisfactory state, we are assured from personal experience; but even here a comparison of the operation, with that for variolous inoculation, is in favour of the former, for such diseases are much more frequently observed after Small-pox, and, as pertinently observed by the late lamented Professor Burns, whose memory is deservedly held in the highest respect, no new cutaneous affection has followed the introduction of Vaccination. But, even at worst, when compared with the great advantages of Vaccination, this objection would scarcely be worthy of notice, except with the view of correcting a vulgar error, viz., that the cutaneous affections alluded to, depend on impurity of the virus employed. Manifestly, in the majority of cases, this is not so—but the result is dependent on the state of the constitution at the time of the operation; for the same lymph will produce the effects in question in one child, and not in another, as I have, over and over again, had the opportunity of observing.

The tendency of Vaccination to diminish the prevalence of Small-pox, by rendering less numerous the sources of infection, is so self-evident, that we need not dilate on it here, although, as regards the community, it is a matter of very great importance.

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[1] Methodus Medendi.

And, even in point of safety, the operation for Cow-pock has an immense advantage over variolous inoculation, for, to say nothing of the comparative mildness of the symptoms of the former, it is not to be overlooked, that a considerable mortality arose from the artificial Small-pox, even after the most careful preliminary preparation for the operation. The average number of deaths from this cause, at the Inoculation Hospital, is stated to have been three in one thousand cases, and the mortality consequent on Vaccination is certainly very much less than this, although little or no medical treatment, either preparatory, or during the progress of the disease, is either practised, or, indeed, considered necessary. Many practitioners, of considerable experience in this branch of practice, have never seen a single case of Cow-pock terminate fatally in the human subject; still, the possibility of such an occurrence has been sufficiently determined. In Germany, according to Heim, of 208,322 children submitted to the operation, 70 died; and at Baden, 79 deaths occurred out of 98,198 cases, The proportion of one fatal case therefore in rather more than 2,000 individuals is not large, even if it could be unequivocally shown, that all the recorded deaths were necessarily dependent on this cause, and the results might therefore be advantageously contrasted with the mortality arising from variolous inoculation. But in these kingdoms, we are able to infer with certainty, after extended inquiry, that the fatality is infinitely less; and in my own personal experience, extending to a thousand cases in one year, I have never seen the operation terminating in death, even in a single case, and Dr. Baron has only seen one. Nothing further need therefore be advanced as to the superiority of Vaccination in point of safety.

Protective Influence of Vaccination. The great practical question —*Whether, and how far, does Vaccination protect from a Subsequent Attack of Casual Small-pox?* now remains for discussion. And first, with reference to the groundless assumption, that Vaccination affords no protection whatever, we believe it to be so directly contravened by the most conclusive testimony, and by well-established facts, that no other reply seems necessary, but to adopt the language of Capuron— "Experience and observation constitute an answer to their foolish and absurd declamations." The evidence in favour of the protective and modifying influence of Vaccination may be arranged as follows.

a. Popular experience, as to the immunity enjoyed by those who have casually contracted Cow-pock from the cow, horse, or camel.

The discovery of Jenner, as before stated, arose out of the popular belief, prevalent in the dairy counties of England, that the casual transfer of a peculiar form of disease from the udder of the cow to the hands of the persons engaged in milking, defended such persons, ever after, from the liability to Small-pox; and it was only after a long and patient investigation of this point, that that eminently sagacious physician came to the conclusion, that the popular belief was founded in truth. His researches have, therefore, tended to lighten, greatly, the labours of subsequent investigators, by clearly pointing out the precise characters of the pock, which alone can impart the desired impunity, and which it is therefore necessary carefully to discriminate from a variety of diseases having a general resemblance to the genuine malady, but conferring no exemption from a subsequent attack of Small-pox. Jenner,

however, erred in supposing the casual variolæ vaccinæ to be, invariably, a purely local disease, whereas it is frequently a constitutional febrile affection, generally mild, and accompanied by an eruption; but occasionally severe, and even fatal. Thus, at Moorshedabad, the pustules appeared all over the body, about the fifth or sixth day after the animal became indisposed, with fever and much distress, and went on to ulceration, the hair falling off wherever a pustule had run its course. The mouth and fauces (which, being one mass of ulceration, impeding mastication), were the principal seats of the disease, which proved fatal, apparently from inanition, in the proportion of from fifteen to twenty per cent.

According to Ceely,—to whose minute and correct history of the symptoms, collated, however, with various other accounts, we are principally indebted for the following description,—the casual Cow-pock appears most generally in the spring, and in a sporadic form. The disease is, however, occasionally epizootic; but Mr. Ceely has not been able to trace it to the equine vesicle, and he adds, that in England, fever is rarely observed. The first perceptible symptoms are heat, tenderness and induration of the udder, followed, about the fifth day after exposure, by small papulæ, affecting also the teats. In cows with white skins, circumscribed indurations appear about the sixth and seventh days, of a reddish colour, as large as a pea, and circular, ovoid, or lozenge-shaped, with a central depression, in which is visible a small dirty yellowish-white discoloration, surrounding a still darker dot or line. The indurations are often interspersed with minute red papulæ, of a darker colour, rather acuminated, and frequently abraded at the summits. Some of the tumours have a slender amber-coloured, yellowish-brown, or black central crust, and are less prominent than those without the crusts. On the eighth and ninth days, the central depression, frequently of a blueish tint, becomes more apparent, as well as the elevation of the margin, which is solid, uniform, tense, and shining, of a glistening pearly, or silvery hue. An areola of a pale rose, or light damask-colour, a line or two in width, is frequently apparent round the base. In others, the central crust has increased, and is yellow, brown, or black; some appear a little pustular in their centres. A few small conoidal vesicles, some of them with a slight depression on the apex, appear to have subsequently arisen on the teats, but in general, the majority of the tumours on these parts are more or less abraded, and lymph is seen exuding from their centres, the cuticle being loose, or partly detached, whilst brown and black incrustations, and other alterations from the natural characteristic appearance, are manifest. About the tenth and eleventh days, the disease usually reaches its acme, when the tumours are often eight or ten lines in diameter, the centres and central edges of the intumescent margin are of a deep blue or slate-colour, and the areola, under which the integuments are deeply indurated, generally of a pale rose-colour, is seldom more than four or five lines in extent. The lymph, now abundant, raises the cuticle, and forms a globular or conoidal vesicle, or freely flows out from its rupture. From this period the induration subsides, and the incrustation and desiccation proceed, until the crusts spontaneously separate, from the twentieth to the twenty-third days, leaving shallow, smooth, oval, or circular

cicatrices, of a pale rose, white, or yellow colour. When the process is disturbed, we may observe on the teats, large black, solid crusts, often more than an inch or two in length, or they appear abraded, ulcerated, and bleeding.[1]

It has been affirmed by Reckleben and Thar in Germany, as well as by some observers in this country, that milch-cows are alone subject to Cow-pock, but Heim has shewn that this is not consonant with fact. The truth is, that milch-cows, from causes that must be obvious, are certainly more liable to the disease than young cattle, which are less exposed to inoculation by the hands of the milker; but the latter are by no means entirely exempt.

The lymph from the genuine vaccine vesicle just described, when accidentally transferred to any abraded surface on the milker's hand, and absorbed, reproduces the disease usually termed casual Cow-pock in man, which is marked by an eruption of inflamed spots, the tendency of which is to terminate in suppuration. The pustules are bluish, and circular, with elevated edges; and the consecutive phenomena include swellings in the axilla, fever, headache, vomiting, and, occasionally, delirium. These symptoms decline in three or four days; but the sores are painful, and very frequently heal with difficulty.

Bastard forms of Cow-pock, on the hands of the milkers, arising from spurious varieties of the disease in the cow, are of frequent occurrence, and, from their incapability of imparting any protection to the system, have proved a frequent source of error. The most usual forms of the spurious disease are described in another part of this paper: by contrasting which, with the above minute description of the genuine disease, they may be readily distinguished from each other.

But, rigidly speaking, this popular belief in the general immunity, conferred by casual Cow-pock, cannot be admitted as a conclusive argument, until it shall have been determined, by a sufficient body of statistical information, to be certainly true. This, hitherto, in our opinion, is by no means the case; but, at the same time, the proposition has been rendered so probable, by the investigations of Jenner, and others since his time, as to entitle it justly to the place of a strong corroborative argument, in favour of the efficacy of Vaccination. It is not, however, to be looked for, as a result of further examination of the subject, that the protection, which Cow-pock is capable of conferring, shall be invariably present in all cases. This was an error into which Jenner fell; for the immunity, arising even from casual and inoculated Small-pox, is liable to numerous exceptions; and no other result can reasonably be expected in the case of Cow-pock.

Having thus pourtrayed the casual disease, as it displays itself, both in the cow, and in man, we shall now minutely describe the symptoms, which follow the transference of genuine lymph to the human subject. This is a part of the subject of great importance; because all our reasoning, as to the protective influence, has reference to the genuine character of the disease; and the truest test of this is the complete and regular process of the vesicle, with its attendant symptoms, throughout its entire course.

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[1] British and Foreign Medical and Surgical Review, No. xx, p. 465.

b. Symptoms of inoculated Cow-pock. After the insertion of the genuine virus, the puncture ceases to be apparent for a few days, which may be termed the period of abeyance; but it has been observed by Gregory to assume a vesicular form, under the microscope, within eight-and-forty hours. On the third, or fourth day, an inflamed speck becomes visible to the naked eye, which gradually increases in size, and forms a small, slightly prominent tumour, presenting in its centre a dark point, formed by the commencing secretion of the lymph. This point gradually increases in size, and becomes a small transparent vesicle, either of a dull white colour, something like a pearl, or, occasionally, yellowish, with a circular, or sometimes an oval base, especially if the operation has been performed with a longitudinal scratch. The margin is well defined, being rounded, turgid, red, and shining; the centre is umbilicated, or dips instead of being polarized; and this form remains until the eighth, or ninth day, when the vesicle sometimes becomes more elevated in the centre than at the circumference. Frequently there is scarcely any perceptible fever; but more usually, about the eighth day, a degree of constitutional disturbance takes place, which is indicated by slight headache, and lassitude, and possibly by shivering, loss of appetite, heat of skin, increase of pulse, disordered bowels, pain of the arm-pit, and occasional enlargement of the axillary glands. These febrile symptoms may be present for a day, or two, but they almost invariably then subside, leaving no trace behind. About the eighth day, a little sooner or later, the vesicle is surrounded with a circular, inflamed halo, or erythematous areola, marked by intense itching, redness, and slight swelling of the surrounding membrane, and varying, in diameter, from one to two inches, in different cases. The areola is, occasionally, the site of a number of small vesicles. This local inflammation is the pathognomonic proof of the system being affected with the disease. About the ninth, or tenth day, the vesicle acquires its greatest magnitude, and is equal in diameter to the third or fourth part of an inch, and about the size of a split pea. About the eleventh day, all the symptoms decline; the hue of the areola becomes gradually fainter, and, in a day or two, as it begins to fade imperceptibly away, it leaves two or three concentric rings, of a bluish light grey. It is scarcely distinguishable on the thirteenth day after the operation; at which time the vesicle hardens into a dark brown, circular scab; the fluid for two or three days previously having begun to dry up, first at the centre, and to assume something of a purulent consistence. This, if not rubbed off, or interfered with, falls off towards the twentieth to twenty-fourth day, leaving the skin perfectly whole, but marked by a permanent cicatrix, about the third, or half of an inch in diameter, which is marked by a number of pits, corresponding to the cells of which the vesicle had been composed. Each puncture produces but a single, multilocular vesicle, the little cells of which communicate with each other, and secrete a perfectly transparent, colourless lymph, not however, as stated by Good, during the entire progress of the disease. For, although Cow-pock is considered rather a vesicular, than a pustular malady, the vesicle becomes turbid towards the close, and actually secretes genuine pus. Such is the usual progress of the genuine Cow-pock. It may, however, present various deviations from the regular

course, which may be looked on as immaterial, and which are, therefore, to be carefully distinguished from such aberrations as would interfere with the due impregnation of the system. In the former class we may enumerate the following peculiarities: more or less violent inflammation, sometimes even extending to the trunk of the body, is occasionally observed, terminating in a profusely discharging ulcer, instead of the characteristic scab; but this, though requiring local applications, and at times even general remedies, of a cooling nature, does not, in the opinion of Gregory, militate against the protecting influence of the vaccine operation: my own experience is to the same effect. The same physician describes a papular eruption, appearing about the tenth day, occasionally spreading from the extremities to the trunk, and most usually occurring where numerous vesicles have been raised on the arm, indicating, as he alleges, a full effect upon the system. The lichen, here described, is by no means unfrequent, but it may follow spurious, as well as genuine Vaccination, and cannot therefore be looked on as any certain test of the efficacy of the operation.

The occurrence of vesicles, except on the points punctured, is very rare; but if present, they may be considered as a proof of the energetic operation of the virus on the system. In certain cases, these supernumerary vesicles have been attributed, by Cazenave and Schedel, to transference of the matter by the nails, after scratching; but this appears to be a very questionable cause, and, at any rate, the effects may occur quite independently of it.

The phenomena of Vaccination in the adult are the same as in the child, with a few unimportant variations, which have been correctly described by Gregory. Thus the vesicles are thinner, and consequently, more easily ruptured, the lymph generally presents a yellowish tinge, and the areola is more extensive, the axillary glands more frequently become swollen, and the consecutive fever is greater, with less tendency to secondary lichen, than in children. But such slight anomalies neither interfere with the protective power, nor the contagious properties of the lymph, although, for reasons which will appear hereafter, we should avoid selecting it for transmission of the disease.

c. The Identity of Cow-pock and Small-pox an argument in favour of the protective influence of Vaccination.

It was maintained by Jenner, on theoretical grounds, that the diseases in question were identical, the Small-pox being merely a malignant variety of the Cow-pock; but it is of importance to show, that the correctness of his opinion, in part at least, has been established by evidence, both sufficient in point of amount, and satisfactorily attested, to gain the assent of all those who are not unreasonably and pertinaciously sceptical. In asserting the identity of the variolæ vaccinæ and Small-pox, Jenner has found supporters in Wedekind, Henry,[1] Baron, and many others. But no actual experiment in favour of their opinion, however rational, was adducible, until Dr. Sonderland, of Bremen, communicated the disease to a cow, by enveloping her in a woollen bed-cover removed from a patient, who had died of Small-pox;[2] and fine vaccine lymph was procured in Egypt in the same way. As the ex-

[1] On the Laws of Contagion. [2] Petition of Provincial Medical Association.

periment, however, was not followed by like results in the hands of Gregory, Numann, and Macpherson, the statement of Dr. Sonderland became unjustly discredited, until Gassner, Fomin, and Dr. Basil Thiele, of Kasan, succeeded in producing the genuine vaccine disease in the cow, by inoculation with Small-pox matter. Finally, the question must be looked on as settled by the unexceptionable experiments of Mr. Ceely, of Aylesbury;[1] for, the virus of human Small-pox having been communicated by inoculation to the cow, a pock was the result, resembling in all essential particulars the Cow-pock, and which, like the original vaccine disease, afforded a lymph with which some hundreds of persons have been successfully vaccinated, and the efficiency of which has been subsequently tested, both by inoculation of the persons vaccinated, and by their exposure to the contagion of the casual disease. Nor is there anything very remarkable in Retro-vaccination, or the artificial communication of Small-pox to the cow; for M. Viborg had previously succeed in producing the disease in dogs, apes, and swine, in the same manner.[2] In the dog, the vesicle, although evidently smaller, runs the same course as in man. In Lombardy, and in Persia, it has been observed in the sheep as well as the cow, and also in South America by Humboldt and others.[3] The camel too, is susceptible of the disease, as we learn from the communication of Dr. Winchester, in the *Indian Journal of Medicine*, quoted in the nineteenth number of the *British and Foreign Medical and Surgical Review*.

It appears that, in the province of Lus, the camel milkers are subject to a malady termed "*Photo-Shootur*," the Small-pox of the camel, that complaint being designated by the term *Photo*, in the district in question. This is a pustular disease, affecting the hands and arms of the milkers, which is derived from a similar affection on the udder of the camel, closely resembling that on the udder of the cow. No one is ever known to die from this disease; and it is remarked by the natives that those who have been subject to this camel-pock are invariably free from Small-pox, which occasionally prevails as an endemic in that district. It is generally known, that Jenner attributed the sole origin of the disease in the cow, to a complaint affecting the heels of horses, which he erroneously supposed to be the grease, but which has subsequently been ascertained to be a peculiar vesicular disorder affecting not only the heels, but the limbs and body of that animal, and capable of communicating the Cow-pock either to the cow, or directly to man, as fully shown by Loy, Sacco, and De Carro. Of this equine form of the disease, or *pferdemauke*, Professor Hering adduces two instances exhibiting all the characters of perfect identity with the vaccine malady. But this is not the only source of the complaint affecting the cow, for it is well ascertained, as stated by Griva, that it has been observed to occur in that animal spontaneously in Switzerland, the north of Italy, Rome, Germany, Wirtemberg, Holland, France, and Ireland. Dr. M'Cormac suggests, that the disorder in the horse may have been

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[1] See Mr. Ceely's Experiments; British and Foreign Med. Rev., No. xvi, p. 614, et seq., and vol. xiii, p. 781; also, Med.-Chir. Rev., Jan. 1834.

[2] Med. and Phys. Journ., Sep. 1802.

[3] Baron's Life of Jenner, vol. i, p. 239.

derived from the cow, but it would be extremely difficult, if not impossible, to determine whether the disease originated in man, or in the horse, or the cow; and, at any rate, it is sufficient to know the fact, that it may now occur independently in each, and that it is mutually communicable from the one to the other. In giving an impartial view of the subject, however, we should not omit to state the arguments which have been advanced against the identity of the diseases we have been considering, although such objections must now go for nothing, since the establishment of the point at issue by authentic experiments. The first of the objections in question to which we shall allude, is the comparative mildness of the vaccine disease; but the force of this argument, if it have any force, is obviated by knowing that the variolæ vaccinæ have prevailed, as in the year 1825, in as severe and fatal a form, as the Small-pox in man. It must be admitted, however,—indeed it is on this that the value of Jenner's discovery entirely depends,—that, in general, the character of the malady has been rendered infinitely milder, by its transmission through the cow. Another point of difference well established between the two forms of the disease is, the atmospheric transmissibility of the contagion arising either from the casual or inoculated Small-pox, whereas it is not known that the Cow-pock can be conveyed, except by direct contact. It has also been asserted, that the vesicles arising from the vaccine lymph are invariably confined to the points of puncture; and, as a general rule, this must be admitted to be true. But, from whatever cause arising, this is not invariably the case. Thus it sometimes occurs, that Vaccination is performed on individuals exposed to the variolous contagion, and, in such cases, an eruption, more or less abundant, may appear on various parts of the body. Cazenave and Schedel explain this, by saying that the eruption is only Small-pox modified by the process of Vaccination. But it has been further alleged by some physicians, that they have employed the lymph taken from this supposed Cow-pock eruption, and produced therewith genuine vaccine vesicles; in commenting on which, the authors in question observe, that in such cases, the operators have either grossly deceived themselves, or that the malady thus developed has truly the appearance of Cow-pock. Admitting this, they inquire, what becomes of the distinction between Cow-pock and Small-pox?[1]

By the German physicians, a secondary eruption has been observed to accompany the vaccine process, presenting variously the appearance of a spotted rash, or a papuliform, vesicular, or even pustular disease; occurring usually between the eighth and fourteenth days, and remaining for two or three days, or even for a week. In some cases, the eruption assumes the appearance of chicken-pox; and in others, partially, or even entirely, resembles the genuine Cow-pock, and appears on various parts of the body.

Still, such appearances as these last are extremely rare, as I have not observed more than two, out of some thousand cases, in which the pock was not limited to the point of insertion. At one time, Dr. Geo. Gregory was directly opposed to the doctrine of the two varieties of pock being identical, inasmuch as no direct experiments had proved

[1] Maladies de la Peau, p. 79.

that Cow-pock can be communicated from man back to the cow;[1] but his statement is not in accordance with the experiments of M. Fiard.[2] At the same time, on the grounds that diseases which mutually produce each other, are clearly referable to the same source, he admitted the identity of Cow-pock and swine-pox; but, in the same train of argument, he denied that Cow-pock and Small-pox were identical, as the former never produced the latter in the human system; and Small-pox, however mild, never approaches to the character of Cowpock. The inconsequential character of this mode of reasoning is apparent, but need not be insisted on, as Dr. Gregory has since admitted, that late observations have established the identity of the two diseases; and it is difficult to see how any other inference could be arrived at, after the conclusive experiments of Ceely, unless we are prepared to assert that one malady is capable of producing, by inoculation, another of a totally different nature.

This identity unquestionably supplies a powerful argument in favour of the efficacy of Vaccination; for those who believed that Small-pox and Cow-pock were essentially distinct diseases, might very justly object to the belief in the impunity alleged to be conferred by the latter, that there was no known instance of any one malady having the effect of destroying the liability to another. But the fact, as now established, both obviates the objection, and explains what was previously very mysterious; so much so, that a conviction of the non-identity of the two diseases would go far to shake, *in toto*, our belief in the real efficacy of Vaccination. Cow-pock, therefore, being determined to be essentially the same disease as Small-pox, which is confessedly one of that class of maladies in which a first attack destroys the liability to a second, the inference appears unavoidable, that Cow-pock should confer a like immunity; but the extent of that immunity can only be determined by the result of experience. Reasoning from analogy, and the observed effects in other diseases, we should be led to the conclusion, that the amount of the protection imparted by an attack of Small-pox, whether in its severe and casual, or in the mild and modified form of Cow-pock, would be the same; for we find that the constitution is equally protected from a second attack of scarlatina or measles, whether the primary disease may have been of the most malignant, or the mildest nature. But, as already stated, this is a question which can only be satisfactorily determined by extensive and accurate observation.

(To be continued.)

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[1] Medical Gazette, vol. i, p. 781-2.

[2] La Lancette Franç., 1835. Report of M. Gérardin on Vaccine, 1833. British and Foreign Medical and Surgical Review, No. iii.

CASE OF ABSCESS OF THE PANCREAS.

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Case. T., Esq., æt. 41, unmarried, of indolent habits, a large eater, fond of sweetmeats, addicted to masturbation, and one of whose sisters was carried off by phthisis, was subject, for some years, to periodical attacks of bilious dyspepsia, usually occurring in the autumn, and often attended by a white condition of the alvine evacuation, along with a liability to sickness and vomiting, more particularly in the morning. In September 1849, he suffered as usual; but, instead of getting well after a little dietetic discipline and laxative medicine, as had been the case in former years, his symptoms increased; and, when I first saw him, on the 21st of March last, he was emaciated, feeble, and dispirited. The symptoms under which he then laboured were sufficient to account for this condition: the most prominent were, frequent vomiting, without much nausea, great sense of distension in the stomach and bowels, which secreted much gas, almost total loss of appetite, and restlessness, with want of sleep at night. With reference to the vomiting, it usually took place in the morning, either before or after taking food; but, during the day, it generally occurred after food,—sometimes immediately, sometimes after the lapse of two or three hours. The matters rejected were the ingesta, mingled with, and followed by, a quantity of thin, ropy mucus, the whole being intensely acid. The amount discharged varied from a quart to an ounce, and seemed, in general, to depend upon the time during which the acid secretions had been permitted to accumulate. The act was attended with little effort; and, as has been already stated, was not accompanied by much, nor sometimes by any, nausea. The skin was dry and unperspiring, of a slightly yellow tinge, which was more pronounced in the sclerotic; the tongue white, but moist, though stated to have been red and dry previously; there was no thirst; the bowels were slow, but easily moved by medicine; the stools consistent, never fluid, unmixed with bile, and remarkably fetid; the urine was passed in proper quantity (sp. gr. 1.022), sometimes much loaded with lithates, and generally containing a good deal of urea and colouring matter. No bile could be detected in it; but the microscope showed it to contain fat.[1] The pulse was about 100, small; no pain whatever was complained of; even firm pressure over the abdomen failed to elicit signs of tenderness at any point,—the only inconvenience occasioned by its exercise, arising from its producing a tendency to vomit. Moreover, there was no unusual prominence of its walls, either general or partial; but percussion revealed much tympanitic resonance over the stomach and right side of the abdomen; while the left yielded a dull sound, from the lower border of the stomach to the ilium, and felt doughy, inelastic, and, towards the median line, knotty.

The region over which this absence of resonance prevailed, had no

[1] Dr. Bright mentions three cases in which fatty discharges from the bowels took place, and in which there was found, after death, a scirrhous condition of the Pancreas, and a fungous disorganisation of the duodenum.

sharply-defined limits, nor could the form of any tumour or substance beneath the abdominal walls be traced. There was neither pulsation nor fluctuation, to aid the diagnosis; and the general impression which an examination of the abdomen, at this time, conveyed, was, that some abnormal growth, occupying the greater portion of the left side of the abdomen, had pushed the intestines over to the right side, and the stomach up towards the thorax. The liver, whose secretion we have seen to be absent from the stools, though recognizable in the colour of the skin, could not be connected with this abnormal state. It appeared to be of ordinary bulk, not exceeding its natural limits in any direction, and bore pressure with the same impunity as other portions of the abdomen.

The case, as now described, proceeded, with slight and varying alterations in some of the symptoms, but with a decided downward tendency upon the whole, until about the middle of May, when its progress became accelerated by the occurrence of something like irregular intermittent. There were rigors, at uncertain intervals, of from one to three days, each being followed by a hot fit, and terminating by sweating; there was also a tendency to sweat at night. The vomiting, from which the patient had experienced occasional and temporary relief by the use of bismuth, now returned in all its intensity, and bade defiance to remedies; the wasting and debility, which heretofore had advanced with a gradual step, became painfully apparent from day to day; the appetite grew weaker; while the pulse rose in frequency (to 114), and sank in power. The bowels, no longer slow, acted of their own accord about twice daily; the quality of their contents remaining, as already described, devoid of bile, and horribly fetid, but never fluid. The tongue became red and clean, with numerous aphthæ on its back part and edges; the urine and saliva were natural in quantity and in quality; a little thirst was complained of, but no pain. It is to be remarked of the matters vomited now, that they were less sour than formerly, sometimes consisting of thin, glairy mucus, with something like yelk of egg intermixed; sometimes of a colourless fluid, neutral to test-paper, and slightly coagulable by heat. At the same time, the condition of the abdomen, as discoverable by palpation and percussion, became much changed; the dulness descending no lower than the umbilicus, and not rising higher than the ordinary situation of the lower border of the stomach, but rather stretching backward to the left flank. The cause of this dulness still remained undefinable as to form; and the abdomen, at that part, gave no other sensation to the fingers than what I have already described, namely, a doughy, inelastic feel. Pressure still failed to excite pain in any part of the abdomen; but some slight pain, or rather uneasiness, had been experienced in the left lumbar region.

The next epoch, which it is important to mark in this case, may be dated from the end of May. The rigors then ceased, and the abdomen returned to its usual condition, except at one point, about an inch above the umbilicus, and rather to the left of the mesian line, where pressure caused a feeling of soreness, or, as the patient expressed it, as if a boil were there. Over this spot, which was about two inches in diameter, the abdomen felt resistant, and India-rubber like. This apparently favourable change brought no improvement to the patient.

because it was not accompanied by any mitigation of the mortal symptoms exhibited in the disorder of the stomach, liver, and duodenum, and the wasting consequent thereon. Neither did the pulse fall with the subsidence of the febrile fits; on the contrary, it beat 120 in the minute, and some hurry of breathing became now evident for the first time. The bowels continued to act without medicine, and a slight trace of bile was now discoverable in their contents, but their fetor remained unabated. The patient continued to be much annoyed by the quantity of gas secreted by the stomach and intestines; which, besides giving the sensation of uneasy fulness, helped to excite vomiting, now become more frequent than ever, though still unaccompanied by straining or retching. As might be looked for in such circumstances, wasting and muscular debility made rapid progress; and the appearance of the patient became altered, in proportion to their advance. No noticeable change, however, took place in the principal symptoms, until about the beginning of July, when a sudden and considerable swelling of the feet and legs occurred, which was followed by much relief. The vomiting became less frequent, and the appetite improved a little, but still the processes necessary for nutrition remained imperfect; bile did not find its way into the duodenum, except in very minute quantities, and, although what was eaten was not so constantly rejected as formerly, it did not contribute either to strengthen the patient, or to arrest the progress of the *dépérissement* which proceeded unchecked unto the end. Shortly after this, some decay in the memory and perception became obvious; there was tendency to somnolency, and the pupils occasionally dilated; the patient was sunk down in bed, and declined the least exertion; the features were pinched, and cadaveric, and it became apparent that the cessation of the severer symptoms was only an evidence of the waning powers of life. On the evening of the 26th, the vegetable-like monotony of the patient's existence was broken, by the occurrence of a severe rigor, from which he recovered, to experience a second on the following evening, and a third on the morning of the 28th, which last extinguished the feeble and flickering flame of life.

The *post-mortem* examination was made fifty-eight hours after death, when decomposition had already made some progress, and, from circumstances, in a very hurried manner. The limbs were extremely emaciated, the trunk much less so, and half an inch of fat was found to cover the muscles of the abdomen, which alone was opened. Much fetid gas escaped upon puncturing its cavity, and some fat was found in front of the intestines. The stomach was very large and distended with gas, its walls were extremely thin, and some inflammatory patches were observed near the pylorus, on the lesser curvature. The pylorus itself was slightly thickened, and its orifice narrowed. The duodenum bore the marks of intense inflammation throughout, which had proved most destructive in that portion most contiguous to the Pancreas, which broke down into pultaceous shreds in the most cautious attempts to examine it. The inflammation extended for a short distance into the jejunum, and there stopped. The liver was slate-coloured, of ordinary bulk, and normal texture. The gall-bladder was healthy, and contained about three teaspoonfuls of orange-coloured bile. The ducts were all pervious. The spleen was not less than one-third larger than usual

but healthy. The Pancreas, with its envelopes greatly thickened, formed a mass whose diameter would somewhat exceed that of a large breakfast cup. It adhered to the left supra-renal capsule, but to no other of the adjoining viscera. When cut into, a creamy pus flowed out; and, upon further investigation, the *entire* gland was found to be converted into a cyst, filled with the pus just mentioned, and a few cheesy masses about the size of a bean.[1] Remains of septa in the cyst were visible, from which it would seem that the suppurative process was first completed in one portion of the organ, and then in another. The kidneys were healthy; only that part of the left kidney in connexion with the diseased Pancreas was red. I had no opportunity of examining the contents of the cyst, nor any part of the diseased structures, with the microscope.

Remarks. In remarking upon the above case, which is not one of common occurrence,[2] the most obvious features which strike the eye are the vomiting and wasting, which commenced at an early period of the disease and accompanied it to its close. The absence of pain is also remarkable; and the more so, as it was certain from the physical signs, that the various phenomena, which the case presented, were not altogether dependent upon functional derangement of the abdominal viscera. Again, the immunity of the nervous system and integrity of many of the secretions, adds one to the occasional proofs which are afforded to us, of the great extent to which the destruction even of an important organ may go, without compromising any other system than the one immediately concerned. The pulse was increasingly quick throughout, but its acceleration did not seem to depend upon any particular phase of the complaint, but rather on the increasing debility of the patient.

Most writers who have treated of Pancreatic disease have admitted the frequency of vomiting,[3] and some have considered it an essential symptom. Morgagni points out how Disease of the Pancreas may produce vomiting; but, in his third book, he says, "I even confess that this viscus has been found diseased by me and by others without a vomiting being the consequence of it." Dr. Abercrombie inclines to the same opinion, as does also Dr. Claessen of Cologne, who has reported upon 322 cases of Disease of the Pancreas. Indeed it seems reasonable to suppose, that in many cases of this nature, particularly when the morbid change has not proceeded far, vomiting should not occur as a constant symp-

[1] According to Gendrin, in large purulent deposits in the Pancreas, the pus has generally been found creamy and inodorous; Portal, on the other hand, states, that in complete suppuration of the Pancreas, the pus is sometimes of an intolerable smell, and in very large quantity, amounting to two pounds or upwards. The same authority speaks of such abscesses as occasionally the result of disease of the testicle; and M. Tonellé mentions two cases of puerperal peritonitis, attended with like consequences.

[2] Among the 322 cases of Diseased Pancreas recorded by Dr. Claessen, thert is not one case of abscess.

[3] The fact of large quantities of watery fluid being vomited, when the Pancreas has been found diseased, led to an opinion, at one time generally entertained, that the fluid rejected consisted principally of the secretion of that organ. This idea later writers have held to be incorrect, and have argued that the stomach is the source of the secretion, an opinion which this case puts beyond doubt, as it is certain that, long before death, the Pancreas ceased to be a secreting organ.

tom, inasmuch as neither the mechanical nor other condition for producing this effect, may exist in the required degree. In cases where obstinate vomiting does occur, where that vomiting has principally, or partly, a mechanical character, and where it can be made out that an enlarged liver or spleen is *not* the exciting cause; further, when the matters rejected are thin, ropy, sour, tasteless, or salty, and in considerable quantities; and when these conditions exist with pain, hardness, or tumefaction at the situation of the Pancreas, we should then, I conceive, be warranted in setting down the Pancreas as the *fons et origo mali*. Wasting, also, has been much insisted on, particularly by Dr. Pemberton, as indicative of Pancreatic disease. The record of this case agrees with that opinion, but I should be inclined to modify it generally upon the same principles which I have assumed as likely to determine vomiting. For instance, in cases when the functions of the stomach, liver, and duodenum escape the profound alteration which this case shows they sometimes undergo, I should not be prepared to expect a rapid emaciation; and in this view I am borne out by the reports of some of Dr. Abercrombie's cases, where the bodies were found after death to contain much fat.

This question, however, involves another, viz., the extent to which the Pancreatic juice is necessary to nutrition. The experiments of M. Bernard have tended to shew, that its function is to digest the fatty matters, contained in the food, and facilitate their absorption; but the confirmation, or disproval of this opinion will rest with the statistics of Pancreatic disease. It would seem, then, that we can hardly estimate the value of emaciation, *per se*, as a diagnostic mark of this complaint; but, in conjunction with the other signs enumerated as collectively presumptive of its presence, it becomes significant and valuable. Jaundice has often been found to accompany an abnormal condition of the Pancreas, which state may be presumed to influence the liver as it does the stomach, both mechanically and sympathetically. That it acts in the latter way is probable, from the experiments performed by Brunner upon dogs, from which he cut out a portion of the pancreas, and so produced death by bilious vomiting. In this instance, the jaundice was slight, and dependent upon the more or less complete arrest of the flow of bile into the duodenum, yet neither diarrhœa nor obstinate constipation, one or the other of which is stated generally to accompany this disorder, occurred. A very fetid condition of the stools existed throughout, which may probably be assigned to the absence of bile as a chief cause; yet I do not recollect to have ever observed the white evacuations of jaundiced subjects so offensive. Pain is much insisted on by Dr. Claessen as evidence of this disorder, but we have seen that this case forms an exception to his rule. The secretion of the salivary glands, which has been represented as vicarious of that of the Pancreas, when the latter has become suppressed, was not affected; and the circulation, which has been usually stated as seldom implicated in the general disorder, was much quickened on this occasion, its excitement being apparently proportional to the duration of the disease.

Before concluding this *resumé*, it may be worth while to speculate for a moment upon the probable programme of the morbid actions, which at length converted the Pancreas into a bag of pus. Keeping in mind the previous history of the patient and his habits, and particularly the facts that white stools, and vomiting chiefly in the morning, gener-

ally accompanied his annual dyspeptic visitation, we are rather led to conjecture that an enlargement of the Pancreas had existed for some years, probably dependent upon, or connected with, a low kind of inflammation; that disturbances of the other viscera, such as usually occur in the autumn, roused the slumbering fire into temporary activity, and each succeeding year with increasing effect; that the habits of the patient, favouring the morbid tendency, prevented a complete, and only permitted an apparent recovery, and that thus the way was paved for the last final effort of the destructive process. If further, we should try to connect that process with the physical signs which furnished so important an aid to the diagnosis, I should be inclined to presume, that an extensive inflammatory swelling of the Pancreas took place, as we see to happen to the parotid in mumps, by which the intestines became displaced, and dulness upon percussion resulted. That then this swelling subsided, upon the occurrence of suppuration, *as marked by the first series of rigors reported*, and the process lay dormant for a season, again finally resuming its activity, to become completed almost with the last breath of the sufferer.

It seems strange, that so decided an inflammatory action, as the necropsy gave us the evidence of, should have been unaccompanied by pain. I can only endeavour to account for it upon the supposition, that the inflammation was of a scrofulous nature, and the temperament of the patient sluggish and phlegmatic. This, however, can only be accepted as a partial explanation of a very curious fact in the pathology of this class of complaints.

I shall conclude this case by mentioning a fact which seems to possess some interest in connexion with it. Since the date of the matters here referred to, I have been consulted by a gentleman, aged 30, of active habits, a first cousin of the deceased, for a deep seated pain felt at the situation of the Pancreas, which is neither constant nor periodic, but somewhat capricious in its onset, and apparently uninfluenced by any plan of medical treatment or diet heretofore adopted. It is represented as being of a dull aching character, and is rather relieved by light, but aggravated by heavy pressure. It sometimes changes its situation to a small extent, but not for any length of time. It has occurred on several occasions, lasting from three to six weeks during spring or autumn. It has not been accompanied by any dyspeptic symptom, but seems to stand alone, producing no effect but that arising from the sensation of pain. Here, perhaps, we have a first indication of pancreatic disease, and if so, we may learn that a derangement of its organism, sufficient to produce a tolerably severe pain, may not give rise to any recognisable derangement of its functions, nor to any sympathetic disturbance of adjoining organs.

Ludlow, October 1850.

BIBLIOGRAPHICAL RECORD.

On the Use and Abuse of Alcoholic Liquors in Health and Disease. Prize Essay. By William B. Carpenter, M.D., F.R.S., F.G.S., etc. pp. 283. London: 1850.

Temperance and Total Abstinence, or the Use and Abuse of Alcoholic Liquors in Health and Disease. By Spencer Thomson, M.D., L.R.C.S.E. pp. 184. London: 1850.

Early in the year 1848, advertisements appeared offering a Prize of One Hundred Guineas for the best Essay on the "Use and Abuse of Alcoholic Liquors in Health and Disease"; and it was stated that the Essay must contain answers to the following questions:—

"1. What are the effects, corporeal and mental, of Alcoholic Liquors on the healthy human system?

"2. Does physiology or experience teach us, that Alcoholic Liquors should form part of the ordinary sustenance of man, particularly under circumstances of exposure to severe labour, or to extremes of temperature. Or, on the other hand, is there reason for believing that such use of them is not sanctioned by the principles of science, or the results of practical observation?

"3. Are there any special modifications of the bodily or mental condition of man, short of actual disease, in which the occasional or habitual use of Alcoholic Liquors may be necessary or beneficial?

"4. Is the employment of Alcoholic Liquors necessary in the practice of medicine? If so, in what diseases, or in what form and stages of disease, is the use of them necessary or beneficial?"

It is now matter of history, that the prize of a hundred guineas was awarded to Dr. Carpenter; but the adjudicators of the prize recorded their opinion of the great merits of another essay, which proved to be the production of Dr. Spencer Thomson. It is far from our intention to question the strict justice of the adjudication; but, as the two essays are now before the public in a printed form, we consider that a few critical observations upon them will not be unacceptable to our readers.

The great reputation which Dr. Carpenter has acquired as a physiologist, invests every production which emanates from his gifted pen, with peculiar interest; and if, in the course of our remarks, we venture to dissent from some of the conclusions at which he arrives, we shall do so with that deference which is due to high attainments, though with that freedom which may fairly be used in the discussion of a debateable question. It is also due to Dr. Spencer Thomson that we express, in common with the adjudicators, our very high opinion of the merits of his essay; and we may go a step farther, and state that, were the two works placed anonymously before us for a decision as to their relative excellence, we should feel considerable difficulty in giving judgment. We should be inclined to award the palm to both, saying with the adjudicator in the Bucolics:

"Et tu vitulâ dignus et hic":

and we might close the discussion, not inappropriately, in the words of the same rustic judge:

"Claudite jam *rivos*, pueri: *sat prata biberunt.*"

Dr. Carpenter is in practice, as well as in theory, a tea-totaller, and we heartily congratulate him upon the excellent bodily and mental health which he enjoys by an adherence to his system. Undoubtedly, the fact which Dr. C. brings before us, that his own elaborate literary productions have been achieved without any assistance from the use of fermented liquors, is a very strong argument in favour of the system of total abstinence. We quote the

following passage as an interesting piece of autobiography. "Having for several years past been himself performing an amount of steady mental labour, which to most persons would appear excessive, the writer may be allowed to refer to his own experience, which is altogether in favour of total abstinence from Alcoholic Liquors, as a means of sustaining the powers of performing it. Having been brought up as a water drinker, he never accustomed himself to the habitual use of Alcoholic Liquors: scarcely ever tasting them, except when occasionally led to do so by social influences, or when he believed that a small amount of stimulus would improve the 'tone' of his system, which is liable to a peculiar relaxation in certain states of the atmosphere. On determining, about four years since, to give up the occasional use of wine, etc., as a social indulgence, he still held himself free to employ it when he might think it likely to increase the general powers of his system; and for some time he continued to have occasional recourse to Alcoholic Stimulants, (never exceeding a single glass of wine, or half a tumbler of bitter ale), when he felt himself suffering under the peculiar depression just referred to. He gradually, however, found reason to doubt the utility of the remedy; and has, for the last two years, entirely given it up. During these two years, he has gone through a larger amount of mental labour than he ever did before in the same period of time; and he does not hesitate to say, that he has performed it with more ease to himself than on his former system; and that he has been more free than ever from those states of depression of mental energy which he was accustomed to regard as indicating the need of a temporary support to antagonize the depressing cause. In fact, he now finds that when these do occur, the use of Alcoholic Stimulants, (taken even in very small amount), is decidedly injurious to him; diminishing, rather than increasing, his power of mental exertion at the time, and leaving him still less disposed for it after their effect has gone off." (pp. 128-9.)

The essay of Dr. Carpenter is, from beginning to end, a denunciation of the use of fermented liquors, the employment of which is not only wholly unnecessary, according to the author, but is, in almost all cases, positively injurious,—the exceptions being admitted in a very few cases of adynamic fevers and sudden shocks to the system, when the administration of Alcoholic Stimuli is admitted to be beneficial. Dr. Spencer Thomson, however, does not go to so great a length. He reprobates, indeed, very strongly, the *abuse* of fermented liquors; but the moderate *use* of them he seems rather disposed to commend. Dr. Carpenter appears to us to be like a barrister, who is retained to say as much as possible upon *one* side of the question; Dr. S. Thomson is like a judge, who calmly reviews the evidence on *both* sides, and then sums up to the best of his ability. Dr. Carpenter's volume will be welcomed with enthusiasm by the tea-totallers; and his advocacy is, no doubt, calculated most materially to strengthen their cause. The work of Dr. S. Thomson will be read with pleasure and profit by those who do not adopt such extreme views, but whose object is simply to learn the beneficial or injurious effects of fermented liquors upon the human system in health and disease. The personal characters and pursuits of the respective authors will, we think, afford some clue to the different conclusions at which they appear to have arrived. Dr. Carpenter is an author, and, we rejoice to add, a highly successful one; he has long relinquished the practice of physic as an active pursuit, and he is, therefore, wholly free from the annoyances, the fatigue, the anxieties of mind and body, which are inseparable from the pursuit of medicine as a profession. He can regulate his hours of meals, of exercise, and of study, in the manner most convenient and pleasant to himself; he can lie down at night without any fear of having his rest disturbed by clamorous applicants for professional assistance; and he is, moreover, blessed with a vigorous constitution, which needs no stimulation to make it competent to carry on the business of life. Dr. S Thomson, on the other hand, is, as we gather from the perusal of his book, a country practitioner, exposed to

all the toils, the anxieties, and the vicissitudes, to which a medical man, in the country, is necessarily subjected ; getting his meals at irregular intervals, and sometimes not at all ; liable to constant interruption of his nightly rest ; and, perhaps, badly remunerated for his harassing toil. We do not, therefore, wonder that Dr. S. Thomson does not join in the enthusiastic love of weak tea and cold water, under all circumstances. We quote the following passage as a fair specimen of his views :—

"We have still another class of labourers to consider—those who, from necessity, from the peculiarity of their worldly calling, are obliged to forego at times the proper amount of sleep, and who are called upon for a great amount of continued exertion in a limited time. If any cases require, or derive benefit from a stimulant judiciously administered, it is such as we have just now adverted to. If rest first, and then nourishment, can be taken, it should by all means be the plan followed. But at times this cannot be done ; the nervous system is exhausted from want of repose and overstraining, and yet repose cannot be given it. Such is frequently the case in the medical and in other professions and occupations ; a succession of nights of entire or partial loss of rest is endured, and yet the body and mind must both be active for the day's duties. In these cases, no nourishment, no other stimulant, is so efficacious in supporting the nervous system and constitution, as a glass of sound wine or porter. The temporary use of these stimuli under such circumstances does not excite ; the vis vitæ is merely raised to its proper level. Without them, nourishment may be taken ; but in the absence of rest it will not be duly digested. It may be said, substitute tea and coffee : in such cases, these stimuli are sometimes worse than nothing. If alcohol is to be called a poison under all circumstances, tea and coffee used as nervous excitants are worse poisons still. Granted, they may for a time keep off sleep, but they do so by their peculiar action on the nervous system, which leaves it irritable and disordered to an extent so great, that sleep will not come when the fatigue is over. Under the circumstances we have been considering, a glass of wine, porter, or table beer, will not cause drowsiness or excitement ; that is, if not taken as long as the system holds up by its own natural vis ; when, however, it gets below par, if rest cannot be obtained, and exertion is then called for, then a moderate, judiciously chosen alcoholic stimulant, is of much service ..... It has been said that where exhaustion cannot speedily be remedied by repose, the gentle stimulation of a hot fluid, such as coffee, and nourishment, ought to be the means of restoration. In some cases, however, even when exertion ceases, when sleep can be indulged in, but will not visit the overwearied frame, and the appetite fails from mere exhaustion, there is nothing which will do more to restore both than a moderate dose of wine ; and that man's judgment is to be pitied, who would refuse either to himself or to another, thus, as it were, 'ready to perish,' the benefit of so valuable a gift to man."

The first hundred pages of Dr. Carpenter's essay are occupied by the examination of the effects of Alcohol upon the physical, chemical, and vital properties of the animal tissues and fluids ; and of the immediate and remote consequences of the excessive use of Alcoholic Liquors taken into the system. Under these heads, we have the usual description of the chemical effects of Alcohol upon the living textures. The phenomena of intoxication and of alcoholic poisoning are fully and minutely detailed ; and the catalogue of diseases which befal the drunkard, such as delirium ebriosum and tremens, insanity, inflammation of the brain, apoplexy, epilepsy, dyspepsia, acute and chronic inflammation of the liver, hypertrophy and atrophy of the same organ, diseases of the kidneys and skin, gout, rheumatism, diseases of the heart, etc., etc., are all duly and circumstantially described. We presume that this part of the work is intended entirely for the general public, and we think it by no means unadvisable, that the destructive effects of Alcoholic Liquors should be held up to public abhorrence, to deter the incau-

tious from the vice of excessive drinking; but we pass it over as being uninteresting to the profession, inasmuch as every medical man knows perfectly well that the abuse of alcoholic drinks is the fruitful source of innumerable forms of disease.

In the succeeding portion of his work, Dr. Carpenter replies at length to the question, whether there are any peculiar circumstances which render the use of Alcoholic Liquors expedient or advisable; as, for instance, under exposure to extremes of temperature, or to morbific influences, or when the mind or body is called upon to endure great or unusual exertion? We need hardly say, that our author answers this question in the negative; and it is only doing an act of justice to Dr. Carpenter, to state that his reasonings upon this part of the subject are characterized by the greatest acuteness and sagacity, and are supported by a mass of evidence which has been collected together with the utmost care and the most indefatigable labour.

In another part of the book, it is considered whether there are any circumstances, short of actual disease, which render the use of Alcoholic Liquors necessary or beneficial; and this question Dr. C. is also disposed to answer in the negative, with, however, a few exceptions. Now here we are compelled to join issue with Dr. Carpenter; for although we admit, with him, that there is no necessity for administering alcoholic stimuli to healthy children, that it is not justifiable to recommend them to all nursing women, and that they are not indispensable to old persons, yet we maintain that there are numerous instances, short of positive illness, in which a moderate use of fermented liquors is decidedly beneficial. Let us take, for example, the period of lactation; and judging and acting from experience, rather than theoretical views, we cannot condemn, nay, we highly approve and recommend, the employment of a moderate quantity of fermented liquor, especially of good beer, during this epoch of a woman's existence. If we argued *à priori*, we might indeed agree with Dr. Carpenter, that good wholesome food is quite sufficient to produce an abundant supply of breast-milk, and to give to the woman adequate energy for the nourishment of her offspring; but we have too often seen the attempt made in vain, to be persuaded that the plan should be enforced by any judicious practitioner. We have frequently witnessed, among the lower orders of society, the emaciation, the neuralgic pains, the utter prostration of body and mind, produced by lactation under circumstances of privation; and the administration of a moderate daily allowance of porter has removed these symptoms, as if by magic. Dr. Carpenter indeed tells us, that if a woman cannot nurse her child without drinking beer, she ought to wean it; and that "a judicious system of feeding, gradually introduced from a very early period in the life of a child, will generally be preferable to an imperfect supply of poor milk from the mother": but these views are so purely theoretical, and if carried out they would lead to so much practical mischief, that we enter our solemn protest against their adoption. If ninety-nine women out of a hundred are able to nurse their children by drinking a moderate allowance of beer, which neither Dr. Carpenter, nor any other writer, has proved to be in the slightest degree prejudicial to their health, either present or prospective, then we conceive that such a plan, pursued by multitudes of our countrywomen, is far preferable to the inhuman proposition of tearing the infants from the breasts of their natural parents, and consigning them to the tender care of wet-nurses, or the precarious and dangerous experiment of bringing up by hand. There is not a shadow of evidence that the *moderate* use of fermented liquors, as employed by the women of this country, ever produced the slightest injury to either mother or child; while the positive danger incurred by artificial feeding is too notorious to require comment.

In the last chapter, Dr. Carpenter treats of the use of Alcoholic Liquors in the treatment of disease; but this most important branch of the subject is despatched in rather less than eighteen pages, which form the most meagre

and unsatisfactory part of the volume. In truth, the author is too much biassed by theoretical views, to offer any useful remarks upon a purely practical subject; and we accordingly find that in his zeal for tea-totalism, and his disgust for alcohol, he actually allows himself to speak slightingly of the legitimate practice of medicine, and to defend the absurdities of hydropathy. "We may", says he, "keep our patient in town at his usual occupations, practise all kind of experiments upon his stomach, recommend fat bacon or lean chops, prescribe blue-pill and senna-draught, or quinine and calumbo, and ring the changes upon all the wines, spirits, and malt-liquors which the cellar can furnish, without effecting any permanent benefit. Whereas, if he can be induced to give himself a complete holiday; to betake himself to some agreeable spot, where there is sufficient to interest, but nothing to excite; to inhale the fresh and invigorating breezes of a mountainous country, in place of the close and deteriorated atmosphere of a town; to promote the copious action of his skin by exercise, sweating, and free ablution; to wash out his inside, and increase the tonic power of his stomach, with occasional (but not excessive) draughts of cold water; and to trust to the natural call of appetite alone, in preference to artificial provocatives; we shall be giving him the best possible chance of permanent restoration to health. There is, perhaps, no class of cases in which the benefits of the hydropathic treatment are so strikingly displayed, especially when it is carried on in a spot where all other aids concur to make it most effectual; and reasoning from analogy, the writer is strongly inclined to believe that it would be of similar efficacy in re-invigorating the system exhausted by other forms of chronic disease, and would, in most cases, be preferable to any form of alcoholic stimulants for procuring an increase of digestive and assimilative power." (pp. 269-70.)

Upon this passage we shall only remark, that no respectable practitioners keep their patients in town to make experiments upon their stomachs; and that the medical profession are quite alive to the advantages of pure air and change of scene. They do not certainly recommend their invalid friends to the experiment of the damp sheets and the other tender mercies of the Gräfenberg quack, and his English disciples, who, being unable to live by the respectable practice of their profession, keep hotels and lodging-houses under the more genteel name of *Hydropathic Establishments*.

The following passage, from the essay of Dr. S. Thomson, is more to our taste: "Let it not be supposed, that it is here meant to advocate either the cure, or the alleviation, of dyspeptic affections of any kind, being trusted to Alcoholic Stimuli, when they can be dispensed with; when we can substitute the better natural stimuli of air, exercise, relaxation, travelling, and such like; neither to suppose neglect of proper medical treatment: but, as society is now constituted, many, most men, cannot pick and choose their times and their seasons. They must keep on the 'battle of life', with its depressing anxieties and cares, amid the depressing physical influences of our large towns, from month to month, or from year to year, with little or no relaxation: these are the men who suffer from atonic dyspepsia. By all means, if they can, let them seek health and renewed vigour in the tonic natural stimuli we have just alluded to; but, if they cannot, it is folly, and worse than folly, to refuse to the exhausted nervous system, to the pale, flaccid stomach, a provision for the exigencies of civilized life,—which will do much to improve comfort, to add to the power of mental and physical exertion, and to prevent disease."

We had intended to offer some observations of our own upon the relative merits of the two systems of Temperance and Total Abstinence; but the following passage from Dr. S. Thomson's work so fully explains our own opinions upon the subject, that we conceive we cannot do better, in concluding this review, than to quote it entire:—

"Unquestionably, pure water is the natural drink of man; and to man in

a state of nature, it may be well adapted; but when he begins to experience the benefits, but, at the same time, the wants and necessary accompaniments of civilization, variety is looked for; and, being looked for, it is found, in wholesome abundance, in milk, in the juice of fruits, in the sap of trees, or the infusions of various vegetable products, which furnish pleasant and wholesome beverages. True, man, amid his discoveries, has found out and used many articles of food and drink which are injurious; but this fact does not render the others less wholesome. Man has been blessed with the capability —which, more than any other, raises him above the mere animal—of becoming a religious being; he has been endowed with intelligence, with reason, and with judgment; and, by the exercise of these, he must learn to choose the good and reject the evil, not only in generalities, but as an individual. We know, that what will agree and be beneficial to one, will prove hurtful to another; and the man who, knowing, feeling, that he is injured thereby, continues the use, even in moderation, of Alcoholic Liquors, or of some of the less active stimulants,—such as tea and coffee,—is almost equally culpable with those who habitually use alcohol, opium, or hemp, to produce intoxication But yet he may err in using water alone; for, not only may the requirements of the constitution, especially in civilized man, call for the use of some more nutrient or stimulant beverage, but, like compound drinks, the quality of the water itself, which he is compelled to use, may be bad, and productive of disease. Probably, in many instances, the quality of the water has been the real cause of man's resorting to the practice of qualifying it by various additions. The arguments which would reduce man to the state of a mere water drinker, are, perhaps, somewhat akin, in their origin, to those poetic ideas which have delighted to paint, in glowing colours, the advantages and virtues of savage life. If man was intended by his Creator to be a mere water-drinker, let him, by all means, return to the simple element; but, at the same time, to be in conformity, he ought to confine himself to the root, berry, and acorn diet of our ancestors, and exchange his comfortable broadcloth for the natural sheep-skin. But if man has been endowed with faculties, by means of which he may investigate, and reduce to practice, for his own comfort and enjoyment, the varied qualities of those things which make up the sum of the beautiful creation with which he is surrounded,—then should it be his duty gratefully to use, without abusing, to enjoy, without exceeding, the gifts of his Maker."

On the Pulse By Dr. W. A. Guy. [*Being an article in the Cyclopædia of Practical Anatomy*, edited by Dr. Robert B. Todd.]

The treatise of Dr. Guy is most valuable; and contains in one view the most recent and authentic information on the subject, founded on the observations of others, along with numerous statistical tables, carefully compiled by the author. As the Cyclopædia, from its great extent, and consequently large price, is not likely, we fear, to make its way generally into the hands of the medical profession, we have extracted from the elaborate article alluded to, all the most important results, and we now present them to our readers, as a treasury of information which they may find of use in every hour of their professional life.

We place the following digest, sufficient for most practical purposes, before the profession, with the more confidence in its utility, from the impression, a well-founded one we believe, that many practitioners, even of competent skill and acquirements, are scarcely up to the knowledge of the day on this important subject. Those who desire to study it more profoundly, will derive much assistance from referring to Dr. Guy's article at length, and also the following sources of information;—Dr. Harden, *Amer. Journ. of Med. Sc.*, vol. v, and Dr. Pennock for July 1847; the Treatise of Quetelet, *Sur l'Homme*; Dr. Graves, *Dub. Hosp. Reports*, vol. v.; Valleix, *Mém. de la Soc. Méd. de Paris*,

vol. ii, p. 312 ; Hourmann and Deschambre, *Archiv. Gén. de Médecine*, 2de série, tom. ix. ; Dr. Macdonnell, *Trans. of Brit. Assoc.*, 1837, p. 97 ; Dr. Knox, *Edin. Med and Surg. Journ.*, vol. xi, and Nos. 131 and 146 ; Guy in *Guy's Hosp. Rep.*, Nos. 6 and 7 ; Mr. Blackley, *Dub. Journ. of Med. and Chem. Science*, July 1834 ; *Med. Gaz.*, June 10, 1839.

The frequency of the Pulse was first alluded to by Kepler, and then observed more fully by Floyer ; followed at a later period by Bryan Robinson, Falconer, Knox, Graves, Nick, and Quetelet The facts recorded by these authors, have first been brought together in the article of Dr. Guy, and a clear exposition of the frequency of the pulse, as it is affected by age, sex, posture, exercise, food, and other natural causes, as well as of its relation to respiration, has been attempted, with the following results. The maximum frequency is found in early infancy—the minimum in robust old age. The pulse continues to fall from infancy to adult age—attains its lowest point about 50—rises again afterwards, if feeble as well as robust persons are included in the estimate. In *infancy*, the frequency is variable ; the maximum being 165, and the minimum 104. The average is about 140 at birth, falling rapidly during the first weeks of life, the mean being, according to Billaud, 106 from one to ten days of age ; 103 from one to two months ; and 87 from two to three months, but the maximum is considerably higher and the minimum lower than the numbers indicated. The results of Valleix, Gorham, and Trousseau, however, show a higher range than Billaud. The following table exhibits the frequency of the pulse at quinquennial periods, indicating at the same time a law of progressive decrease, from the beginning to the end of life, with an increase during the period of decrepitude :

Age 2 to 5	Mean	105	Age 30 to 35	Mean	73	Age 60 to 65	Mean	72
„ 5—10	„	93	„ 35—40	„	73	„ 65—70	„	75
„ 10—15	„	88	„ 40—45	„	75	„ 70—75	„	74
„ 15—20	„	77	„ 45—50	„	71	„ 75—80	„	72
„ 20—25	„	78	„ 50—55	„	74	„ 80 and upwards		79
„ 25—30	„	74	„ 55—60	„	74			

The irregularities observable in the above table are probably due to an insufficient number of observations. The average frequency of the pulse at the several leading periods of life is as follows :

At birth	140	Adult Age	75
Infancy	120	Old Age	70
Childhood	100	Decrepitude	75 to 80
Youth	90		

Sex. During the first seven years of life, there is little difference in the pulse of the male and female. After that period, the mean pulse of the female exceeds that of the male by an average of about nine beats, its maximum frequency at all periods being above that of the male, as shown by the investigations of Leuret and Mitiviè, Hourmann and Deschambre, and Dr. C. W. Pennock. To assist the memory, *the average pulse of the adult male may be stated at* 70, *and of the adult female at* 80. The lowest number recorded in the table in healthy males is 46, and in healthy females 52 ; but Heberden counted it 42, 30, and even 26 in healthy males, the latter being in a man aged 80, and Fordyce counted it in two old men at 26 and 20 respectively. Falconer found the pulse in two healthy females to be 36 and 24 ; and Dr. Graves in another to be 38. Pulses as low as 16 or 14 have been counted, but it is doubtful if they occurred in a state of health.

Temperament. Nothing is yet known of the influence of temperament on the frequency of the pulse ; and the effects of stature also remain to be determined.

Posture. The effects of posture has been very carefully examined by Bryan Robinson, Dr. Macdonnell of Belfast, Dr. Robert Knox, late of Edinburgh,

Dr. Graves and Dr. Nick. *The Pulse is greatly influenced by posture*, in most cases, although there are some exceptions to the rule. The following are the leading results observed. In the healthy adult male, the mean numbers of the pulse are as follows: standing 79, sitting 70, lying 67, including all exceptions to the rule; and excluding such exceptions, standing 81, sitting 71, lying 66. In the healthy adult female, standing 89, sitting 82, lying 80, including all exceptions to the rule; and excluding such exceptions, standing 91, sitting 84, lying 80. In both sexes, the extremes are very remote from the mean results; and the exceptions to general rules numerous: in both sexes, the effect of change of posture increases as the frequency of pulse increases; this effect is much greater in the male than in the female, and is less in early youth than in the adult, the exceptions to general rules at the former period being also more numerous. The effect of change of posture is greatest in the forenoon—the inverted posture of the body lessens the frequency of the pulse; and the varying frequency in different postures, is due to muscular contraction, as asserted by Robinson, Falconer, and Knox, and not to the varying position of the heart and its valves, or to the effects of gravity. The effect of change of position on the pulse is not transient, but continues as long as the respective postures are maintained; and does not depend on the muscular exertion employed, as proved by Graves, who effected the change of posture, without any effort on the part of the persons examined.

Exercise. Muscular action increases the frequency of the pulse more than any other cause, according to Bryan Robinson, who found it 64, 68, 78, 100, 140, and 150, under the respective conditions of lying, sitting, standing, walking two miles an hour, walking four miles an hour, and running at the top of the speed. Passive Exercise, as in riding, or in carriages, has also a marked effect on the pulse; partly from the varying action of the muscles, exerted in supporting the different postures into which the body is thrown, and partly from mechanical causes influencing the circulation, as pointed out by Dr. Arnott.

Time of Day. Haller, Gregory, Zimmerman, Hufeland, Quetelet, Foderé, Bostock, and others, represent the frequency of the pulse as greater in the evening than in the morning; but contrary to the experiments of Keill, Robinson, and Falconer, it has been established as a general law, first propounded by Dr. Knox, and confirmed by the experiments of Nick, Guy, Sanders, Harden, and Hohl, that the pulse is *less frequent in the evenings than the mornings*, but with numerous exceptions. The difference is very various, being from 18 beats to 1. This diminished frequency seems to depend entirely on the exhaustion of the strength,—*being a less degree of that marked diminution of frequency, which often accompanies convalescence from severe disease;* and not on the effect of continued rest. It has likewise been proved experimentally by Dr. Knox and the author, that the pulse is also very much less excitable in the evening than in the morning, a fact which accounts for the greater influence on the circulation, of food and spirituous liquors in the fore part of the day.

Rest. Rest diminishes the frequency of the pulse.

Sleep, Food, and Temperature. The pulse falls considerably in young children, and slightly in adults during sleep. Food excites the pulse, especially in infancy, and vegetable less than animal food; so do the mental emotions. Cold lowers, heat quickens the pulse; at a temperature of 260°, Sir C. Blagden's pulse rose to 144. At a high elevation, the pulse rises; but it is not determined how far the change depends on diminished density of the air, and how far on the exertion used in the ascent.

Intermission of the Pulse, in some persons, is caused by every slight attack of indigestion, especially when attended by flatulence. The relation

of the pulse to the respiration has been variously stated as 4, 4½, and 5 to 1. The average ascertained by the writer's experiments, 3·47 to 1 ; by Hourmann and Deschambre, in aged females, 3·65 to 1. According to Quetelet, at birth, 3·09 ; at five years, 3·38 ; fifteen to twenty years, 3·72 ; twenty-five to thirty years, 4·43 ; and at thirty to fifty, 3·88 to 1. In females, at birth, 3·09 to 1 ; fifteen to twenty years of age, 4·10 to 1 ; twenty to twenty-five years, 4·52 to 1 ; and at thirty to fifty years, 3·92 to 1. The proportion, according to the same author, of the pulse to the respiration, is lower in the same persons during sleep. The proportion also, in the same posture of the body, diminishes as the frequency of the pulse increases. The effect of posture on the proportion which the pulse bears to respiration is very marked ; thus, the pulse being 64, the proportions were, standing, 2·95 ; sitting, 3·35 ; and lying, 4 97 to 1. The proportion which the pulse bears to the respiration is greater in the erect than the sitting posture, and in the sitting than in the recumbent posture. The respirations are also more numerous in the evening than in the morning.

Anatomy, Physiology, and Pathology of the Eye. By Henry Howard, M.R.C.S.L., Surgeon to the Montreal Eye and Ear Institution. pp. 514. Montreal : 1850.

A few years ago, some excitement was created in the medical circles by the statement, that cataract could be cured by exposing the eye to the vapour of prussic acid ; and a London practitioner, backed by a non-professional Scottish journal, turned this impression to good account. The experiment was fully tried at our leading eye-infirmaries, but completely failed ; and met with no better success in the hands of many of our leading ophthalmic surgeons, although found to be undoubtedly useful in the removal of corneal opacities. As a remedy for cataract, therefore, hydrocyanic acid lost credit in this country, being nearly forgotten, when we were not a little surprised at finding, in the work before us, its boasted virtues re-appearing in all their pristine vigour, as seen at Montreal. To be sure, the vapour is assisted by veratria, electricity, and iodinic counter-irritation ; but as these all go on merrily together, it is difficult to say to which agent the surprising result is due.

"By the above treatment", says Mr. Howard, "long persevered in, I have not only succeeded in curing hundreds (?) of cases of incipient cataract, but have also in very many cases succeeded in giving old people, who could not make their way alone, such sight as enabled them to read a moderate sized print" (p. 355). Three cases are related, which are indeed remarkable ; but it is strange that in England such happy results have not followed treatment similar to that described in Mr. Howard's book. In these so-called cures of cataract, the question naturally arises, *were they cataracts at all?* and when a surgeon speaks of curing incipient cataracts by hundreds, the question presents itself in double force. We do not mean to imply that there is intentional deception on the part of the author ; but may he not, like many others, have been mistaken in his diagnosis ? We presume that the treatises of Messrs. Mackenzie, Lawrence, Middlemore, and Tyrrell, are not common in Canada, and that this work is intended to supply their place. Although not to be placed in competition with either of the first three, it is in many respects meritorious. But we entreat the author to be a little more correct in his orthography of names, should a second edition be printed. The eminent physician of Glasgow is spelt Mackenzie (105), Makenzie (432) ; Mr. Lawrence is Mr. Laurence (231). The late Dr. Hocken figures as Dr. Hocker (303) ; Janin is Jannin (409) ; Maunoir is Maunior (410) ; Mr. T. B. Curling is Mr. J. B. Curling (200) ; Dr. Marshall Hall is Dr. Marshal Hall (192) ; and Dr. Todd is several times mentioned as Mr. Todd, where, in fact, Mr. Bowman's name should have appeared. The commonest

attention in correcting the sheets would have prevented these palpable blunders.

In conclusion, we would recommend to the author a careful revision of his work, in its substance, its grammar, and its arrangement. It might thus be made creditable to the author, and to the Montreal press.

Deafness Practically Illustrated. By James Yearsley, M.R.C.S. Eng., Surgeon to the Metropolitan Eye and Ear Infirmary, Sackville Street. Third Edition. pp. 244. London: 1850.

The following is a summary of the contents of Mr. Yearsley's book. 1. Anatomy of the ear. 2. Outline of the diseases which produce Deafness. 2. Catheterism of the Eustachian passages—safe, painless, and efficient. 4. Deafness from derangement of the stomach. 5. Deafness from morbid condition of the mucous membrane of the throat and ear. 6. Pathological connexion of the throat and ear. 7. Obstruction of the nose in connexion with Deafness. 8. Statistics of Deafness. 9. Best means of compensating for incurable Deafness. 10. Ear-trumpets. 11. Modes of treating Deafness when attended by partial, or entire loss of the membrana tympani, associated, or not, with discharge from the ear. Mr. Yearsley has relieved many cases of this description by gently inserting a small pellet of moistened cotton-wool, and carefully applying it to the remains of the membrana tympani.

We observe that the author puts in a strong claim to the gratitude of the profession and the public, for having almost suppressed ear-quackery. He says, "I trust I have said enough to show the absurdity of the indiscriminate syringing, and the application of acrid ear-drops, irritating acoustic oils, and ointments, which were almost the sole local means of treatment among the race of aurists previous to the first promulgation of my views. If I had only done this, I should rest satisfied that I had not written in vain. It is lamentable to think that a legitimate branch of medical science should have been thus left to unqualified pretenders, whose sole hold upon the public consisted, not in the benefits they could confer, but in reiterated advertisements and self-laudation." (p. 243.) Mr. Yearsley's treatise contains matter for reflection, and practical instruction.

Hydrocephalus reconsidered, and its Relations to Inflammation and Irritation of the Brain defined; with Cases from Hospital and Private Practice, in Exemplification of its Pathology, Prevention, and Successful Treatment. By Thomas Weeden Cooke, M.R.C.S. Eng.; Medical Officer for the Diseases of Children at the Royal Free Hospital, etc. pp. 112. London: 1850.

The objects which Mr. Weeden Cooke had in view in writing this treatise on Hydrocephalus, appear to have been, *first*, to insist on the importance of distinguishing cerebral irritation, a disease of asthenia, from cerebral inflammation, a sthenic affection; *secondly*, to point out the impropriety of using the term Hydrocephalus as designative of a disease, whereas it is merely an effect, which is often absent, or does not appear until the disease has passed beyond that stage in which it can be easily treated; *thirdly*, to shew that cerebral disease in children is not so formidable in its effects as is commonly supposed; *fourthly*, to bring prominently into notice the use of iodide of potassium, and chlorate of potash, as highly efficacious remedies in the collapsed stage of cerebral inflammation, and in irritation.

The leading ideas contained in the book are good; but we must regret that Mr. Cooke has not given them a more extensive development than a hundred and twelve sparsely printed pages. Indeed, after deducting twenty-four pages for the introduction, and for some remarks on the general pathology of inflammation and irritation, as well as forty-two pages at the end, occupied with details of cases, we find only forty six pages devoted to the con-

sideration of the symptoms, causes, treatment, results, and pathology of cerebral inflammation, and of cerebral irritation. This is too little for such important subjects. In his desire to be brief, too, the author necessarily becomes, at times, somewhat obscure: and his pathological views, especially of tubercle, at pp. 42-44, are somewhat heretical. We are surprised at finding no reference to the able observations of Drs. Marshall Hall, Abercrombie, Gooch, etc., on the Hydrencephaloid Disease; a common result of exhaustion and anæmia, and, as Dr. Hall has pointed out, indicating the use of nutritious food and stimulants; while Mr. Cooke has, no doubt, found the iodine and chlorine salts useful in cases of cerebral irritation from tubercle, or other forms of cachæmia. The author evidently includes all these cases under the head of irritation; a term, in our opinion, somewhat too vague.

While we make these remarks, we would not be thought hypercritical; and we willingly concede to Mr. Weeden Cooke the merit of endeavouring to make the cases, which have fallen under his notice, available for the instruction of his professional brethren, and of having, to some extent, succeeded. But we would have much preferred that he had developed his ideas on the subjects of cerebral inflammation and irritation in children, in a more extended form, and presented us with the well digested results of his experience, rendered more valuable by sound reasoning, and by careful collation with the opinions of other writers on the same subject. Such a work, from a competent author, would be a valuable addition to our medical literature.

Pathology of the Human Eye. By John Dalrymple, F.R.S. Fasciculi V and VI. London: 1850.

Just complaint has been made of the irregular appearance of several medical and scientific works now publishing in numbers. Mr. Dalrymple and his publisher, however, keep faith with their subscribers, and show an example which might be most advantageously followed by those entrusted with certain high publications, which for the present we forbear to name.

The fifth and sixth fasciculi fully maintain the character of the work, and justify the opinion we have already expressed as to its merits (vol. i, p. 356). Fasciculus V is devoted to Iritis and Aquo-Capsulitis. Congestion of the Choroid, and Glaucoma, form the subjects of Fasciculus VI. We never remember to have seen anything more truthful than the representation of Iritis, Fig. 1, Pl. xviii. The proper tint and extent of the corneal zone is admirably depicted, and so is the dull and discoloured iris. Fig 4, too, in Plate xxii, most faithfully renders the appearances presented in an eye where Choroiditis is passing into true amaurosis and incurable blindness.

The instructions for treatment are clear and judicious, fully demonstrating the ripe experience and sound practical knowledge of the talented author.

Rapport adressé a Mons. le Délégué du Gouvernement Provisoire sur les Traitements Orthopédiques de M. le Docteur Jules Guérin. pp. 202. 4to. Paris: 1848.

This, as the title expresses, is the Report of a commission issued to investigate the treatment, by subcutaneous section, of Strabismus, Wry-neck, and other muscular contractions, together with rachitic deformities and cicatrices. The conclusions at which they have arrived are highly favourable to the practice. The subject, however, has been so fully investigated in this country, and the practice is so well established, that any comment, or analysis of the book, would now be superfluous. The Report is highly flattering to the skill and dexterity of M. Jules Guérin. This work we only received a few weeks ago, although it was accompanied by a letter bearing date December 1848, and was evidently intended to have reached us in time for notice in an early number for 1849!

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

PRACTICE OF MEDICINE AND PATHOLOGY.

DR. A. J. CUMMINGS ON TANNIN AS A MEDICAL AGENT.

Dr. A. J. Cummings of Roxbury, Massachusetts, has published, in the *Boston Medical and Surgical Journal* for August 14, 1850, a paper on the therapeutic uses of Tannin, which is especially valuable as a confirmation, by an independent observer, of the value attached to this medicine by Dr. Scott Alison, in the January number of this Journal. It will be seen, however, that Dr. Cummings confines his observations to the *astringent* properties of the remedy, and that he prefers it to all other medicines of this class.

In *dysentery*, Dr. Cummings has used it extensively, either alone or combined with opium in some form, and finds it, so far as an astringent is indicated, the most prompt in its action and salutary in its application. He has given it in more than one thousand cases of dysentery, diarrhœa, cholera, cholera infantum, and other bowel affections, and in no case has he regretted having given it, and in very few indeed did it fail. Dr. S. S. Whitney, of Dedham, uses it almost exclusively in dysentery, whenever an astringent is indicated. Tannin has advantages in its freedom from danger, and in its possessing the astringent property in so concentrated a form, that very small doses are sufficient; which, especially in children, is a great desideratum. The following are the formulæ given by Dr. Cummings. ℞ Tannin ℈j.; opii pulv. ℈ss.; secalis cornuti gr. xv.; sacchari albi ʒss. M. Divide in chartas x. For adult males, and females, where the ergot is admissible. ℞ Tannin gr. x.; pulveris ipecacuanhæ c opio ℈j.; pulveris cretæ comp. ʒss; sacchari albi ℈j. M. Divide in chartas x vel xv. For children from one to five years old. ℞ Tannin gr. xxv; pulv. opii gr. x; extracti cicutæ gr. viii; pulv. ipecacuanhæ gr. x. M. Ft. pilulæ x. One three or four times a day.

In some cases, in prescribing for children, he gives the tannin combined with Dover's powder, ground down with white sugar; and of course the prescription must be so altered, as to conform to the nature and circumstances of the case.

Dr. Cummings has successfully used it in the *sweating* of the last stages of phthisis, or low continued or typhoid fever. In a case of tubercular phthisis treated about two years since, the patient, a corpulent man, aged 46, sweated so profusely as to deprive him of rest, and weaken him rapidly. After trying the diluted acids, etc., Dr Cummings gave him at night a pill of Tannin and opium, containing one grain of each. On the second night the sweating was checked entirely, and from that time to his death he was not troubled with sweating, except when he omitted the pill. In another case, the patient, a young man, had been ill for several weeks with typhoid fever, and, on becoming convalescent, he was severely troubled with night sweats. Tannin, in one grain pills, at once checked the sweating, and his health rapidly returned.

In *hæmorrhage*, in almost all its forms, Dr. Cummings has used Tannin with success. In hæmoptysis, Tannin combined with opium and ipecacuanha, in form of a pill or powder, has, in almost every case, proved successful. The ipecacuanha and opium are old and well-established remedies; but they often fail, when given alone, to produce the desired result. Having, in a practice of ten years, used numerous articles of this class in the materia medica, Dr. Cummings gives Tannin the preference over all other medicines in this disease. In hæmaturia, hæmatemesis, and other forms of hæmorrhage, Dr. Cummings finds Tannin superior to any other remedy. Especially in hæmorrhage from the *bowels*, as the result of dysentery, producing

abrasions of the mucous membranes, or the rupture of small vessels from other causes, the Tannin will be found to act like a charm in arresting the bleeding. In uterine hæmorrhage produced by threatened abortion, when, in the early months of pregnancy, the ovum and its membranes become partially or wholly detached, or in that brought on by premature labour, Dr. Cummings has frequently used Tannin. It is true that, when abortion is unavoidable, the use of ergot may stop the bleeding. But it is always desirable, if possible, to arrest the hæmorrhage without producing abortion. Tannin acts upon the muscular fibres of the uterus, sufficiently to close the mouths of the bleeding vessels without expelling the contents of the uterus. Dr. Cummings relates the following case: He was hastily called to visit a lady who was said to be "bleeding to death". She was about three months advanced in her second pregnancy. The os uteri was dilated to the size of a twenty-five cent piece, with the membranes of the ovum resting over the mouth of the uterus. She had, by imprudently getting up several times, discharged a large quantity of blood; pulse very weak and trembling, countenance pale and haggard, ringing in her ears, thirst, faintness, and extreme prostration. Dr. Cummings gave her Tannin in two grain doses, combined with ipecacuanha and opium, every fifteen minutes, until the blood ceased to flow. In a short time the hæmorrhage was arrested; she passed a good night, had no return of the flowing, and did not miscarry. Sometimes it is necessary to use either the Tannin in larger doses, or combined with ergot, when the ovum is entirely detached, and abortion is inevitable.

In *hæmorrhoids*, Dr. Cummings has great confidence in this remedy. A clergyman who had been afflicted for many years, and had tried various articles, told him, after using Tannin, that he was completely relieved, and believed himself cured. It may be used in the form of an ointment, or a wash, as is most agreeable. ℞ Tannin ℈ss.; tincturæ krameriæ, ʒss.; aquæ rosarum ʒjss. M. Ft. lotio. Or, ℞ Tannin ʒss.; sulphuris sublimati ℈ss.; spermatis ceti ʒj.; adipis puri ʒj.; olei lavanduli gtt. v. M. Ft. unguent. Or, ℞ Tannin ℈ij.; sacchari albi pulv. ʒss.; olei lavand. gtt. v.; adipis puri ʒj. M. Ft. unguentum.

In *epistaxis*, Tannin may be used in powder, and snuffed into the nares, or blown through a tube or quill, and it will be found in almost every case to prove efficacious. In severe *salivation* from mercury, this article will also be found of great importance. In *aphthæ*, and other diseases of the mouth, where there is sponginess of the gums, or bleeding, as in scurvy, Tannin has no equal in the whole list of astringents. It may also be used as a gargle in relaxation of the uvula and tonsils, and the soft parts contiguous, in the proportion of from gr. vi to gr. x, to an ounce of rose water, with tincture of krameria. The krameria is, in itself, a powerful astringent, but it does not answer, alone, any very valuable purpose.

As an *antiseptic* in cleansing old sores and phagedænic ulcers, and that form of ulcer that so frequently follows varicose veins, Tannin, in the form of powder, especially in cases accompanied with hæmorrhage, immediately arrests the bleeding, and renders the ulcers clean and more disposed to fill with healthy granulations, and ultimately to heal. As an astringent collyrium, Dr. Cummings has also used the Tannin with marked relief, and considers it preferable, in all cases of *purulent ophthalmia*, to any other article with which he is acquainted.

DR. MARSHALL HALL'S TABLE OF PAROXYSMAL SEIZURES.

Dr. Marshall Hall has published the subjoined table in the *Lancet* for July 20, 1850, in the course of his interesting series of papers on the Neck as a Medical Region. It exhibits a comprehensive and very intelligible epitome of his views. He regards Blushing and Sick-headache as phases of Paroxysmal Seizures.

PAROXYSMAL SEIZURES. [TYPES—1. *Blushing*; 2. *Sick-headache.*]

I. CAUSES.	II. MODE OF ACTION.	III. MEDIUM OF ACTION.	IV. TRACHELISMUS—*usually Torticollis.*	VI. SPECIAL PHLEBISMUS—*of*	VIII. CONGESTION—*of*	IX. THE SYMPTOMS.	X. SPINAL ERETHISM—‖	XI. PREVENTION, TREATMENT—consisting in
I. 1. Emotion, Excitement; 2. Intra-cranial Disease;* 3. Abnor. cond. of Blood; 4. Sleep;	Catastaltic,							1. Avoiding Exciting Causes;
II. 1. Dental†— 2. Gastric— 3. Intestinal— 4. Uterine— 1. Catamenial— 2. Puerperal—	Irritation; Diastaltic, through	1. Trifacial— 2. Pneumo-gastric— 3. Spinal—Nerves,	Spinal Centre and				with augmented Susceptibility to Returns.	2. Removing Erethism;
		1. Facial—	1. Platysma myoides;	1. External Jugular—	1. Face, Eyes, &c. suffusion, ecchymosis, distended veins;	1 1. Focci; tinnitus; aura; 2. Headache; vertigo; oblivium; stupor; delirium; stertor, laryngeal or nasal;		3. Removing Congestion;
		2. Sp. Accessory—[1]	2. Cleido-mastoid, [2]Omohyoid, etc.;	2. Internal Jugular—	2. Cerebrum; ecchymosis—red points; or clot; softening;	2 3. Falling; nutatio; loss of speech; paralysis of hand; hemiplegia;§		4. Use of Specific Remedies.
		3. Descendens Noni—[2]	3. [1]Trapezius, Scaleni, etc.;	3. Vertebral—	3. Medulla oblongata;	3 1. Spasms; torsion of face, eyes, neck, limbs; 2. Bitten tongue, lip, or cheek, 3. Convulsions, general or partial; expulsion of urine, fæces, semen; 4. Spasmo-paralysis; 5. Syncopal seizure.		
		4. Spinal—Nerves.	4. Subclavius;	4. Subclavian Veins.	4. Hand; lividity, distended veins.	4		
		1. Recurrent, 2. Intercostal, 3. Abdominal, Nerves.	V. LARYNGISMUS—With Efforts of Expiration.	VII. GENERAL PHLEBISMUS. ‡				

* Or this cause may act diastaltically through the meningeal branches of the Trifacial.

† In this case there are tetanoid irritation of the nerves, and erethism of the spinal centre.

‡ Also induced in extreme diseases of the Heart with impeded "*arrière*" circulation.

§ This paralysis is paroxysmal and transient, if there be only congestion; it is permanent, if there be rupture or softening.

‖ The epileptoid paroxysm exhausts the excitability; the patient is therefore safe for a time, except there be the presence of a powerful exciting cause. Afterwards re-action takes place, which proceeds to excess, and there are augmented excitability of the spinal centre, and susceptibility to renewed seizures. The *type* of all this is presented by experiments. With this erethism, there is augmented excitability of the larynx, so that exposure to the north-east wind, or drinking cold water, induces laryngismus.

CLIMATE OF DARTMOOR IN CONSUMPTION.

Dr. W. C. Radley, of Newton Abbott, in the *Lancet*, for September 7th, 1850, says, that "an elevated open region is more congenial to the health of the Consumptive than a low, and sheltered situation; that the interior of a country is infinitely better than the vicinity of the sea-shore; and that the restoration of our pulmonic patients to health is more certainly insured by their inhaling an atmosphere in its purity, than by any other remedial means." He believes that, in these respects, Dartmoor possesses pre-eminent advantages. Its mean elevation is nearly two thousand feet above the level of the sea; it is more exposed to the rays of the sun, and possesses purer air, than the lower lands. Dr. Radley thinks the objections futile, that the moor has fogs, and is very wet, cold, and bleak. The fogs are beneficial to health, being charged with electricity; not resembling the fogs arising from rivers, or marshes. The rain is, indeed, abundant; but it falls rapidly, and percolates immediately through the sandy soil. The cold is at times great, but it is bracing; and, moreover, invalids might expose themselves to, or avoid it, at their convenience. The water is also pure. The soil is pure silex, with felspar and peat; and in this, together with the scantiness of vegetation, Dr. Radley believes much of the salubrity of the district to depend, there being no chalk, limestone, nor dense trees, to give out carbon. The peat, as an article of fuel, is also peculiarly fit for the organs of respiration, as it freely evolves naphtha.

Dr. Radley concludes, by strongly and confidently recommending Consumptive invalids to be sent to Dartmoor. The residence, however, must be *upon the moor*. The bleakness, the cold, and the fogs appear to us to be formidable objections to any resort for invalids; but we would recommend the subject to the consideration of all our professional brethren, who may require to advise change of climate to their Consumptive patients.

DR. BETZ ON GOITRE IN NEW-BORN CHILDREN.

Goître, in new-born children, is a disease as yet little noticed. The children affected with it are generally fat, and well-nourished. The Goître sometimes has the form of a swelling resembling the thyroid gland, stretching across the neck, and liable to be mistaken for a simple fold of fat; sometimes the neck only appears broader than natural; and sometimes no remarkable appearance is observed. The symptoms to which it gives rise, are, difficulty of breathing, soon after birth; inspiration is prolonged, accompanied with a moaning tone; expiration is also difficult, and sometimes accompanied with crying; sometimes the breath is entirely arrested, and there is danger of suffocation. In the more severe cases, sucking is impossible, or very difficult; it induces dyspnœa, which also results from the mere act of drinking. The dyspnœa, or rather asthma, comes on in paroxysms. The Goître consists in a simple hypertrophy of the thyroid gland; sometimes the whole is affected, sometimes only the two lateral lobes, sometimes only one lobe, or even only the apex of one. The swollen lobes penetrate behind the commencement of the œsophagus, or the pharynx, press these on the larynx, and, at the same time, by means of the tumour which they form at the back of the throat, narrow, more or less, the glottis; hence the dysphagia, and danger of suffocation. The affection seems to be hereditary. The so-called *asthma laryngeum* depends, in many cases, on hypertrophy of the thyroid gland; and many cases of atelectasis of the lungs may arise from this cause. When the danger is imminent, Dr. Betz applies leeches to the thyroid gland, administers an emetic, and orders the mouth to be diligently washed out; in chronic cases, he employs iodine internally and externally. (*Henle und Pfeufer's Zeitschrift*, bd. ix, heft 2 and 3, as quoted in *Journal für Kinderkrankheiten*, July and August, 1850.)

THE DIAGNOSIS OF TAPE-WORM, FROM THE CHARACTER OF THE NERVOUS SYMPTOMS INDUCED BY ITS PRESENCE.

M. LEGENDRE has published an interesting memoir, upon the Nervous Symptoms produced by Tape-Worm, in the *Archives Générales de Médicine* for June 1850. He places the facts of this department of diagnosis in a very clear point of view; and, on this account, we think it right to call the special attention of our readers to the following brief abstract of his paper. When anomalous Nervous Symptoms perplex the physician, it is always right to compare them with those which are known to be caused by Tape-Worm; and, if any room for suspicion of its presence exist, it is always imperative to administer a vermifuge. We say *always*, because the experiment is at least harmless, as the perfect safety, as well as the general success of the kousso has now been fully established on unimpeachable authority. We would, in in all cases, prefer this medicine, or the oil of the male fern, to the bark of the root of the pomegranate, which is considered by M. Legendre to be the best. The latter is likewise, undoubtedly, a most valuable drug for dislodging the tænia; but it is not quite equal to the kousso, or the male fern.[1] The following is the substance of M. Legendre's paper.

Thirty-three fully reported cases are carefully analysed.[2]

Disorders of the cerebro-spinal nervous system occurred most frequently; viz., in twenty of the thirty-three cases. They were, in twelve cases, of a convulsive character, occurring several times, or oftener (being eight times epileptiform, and four times hysterical). In eight of the cases the convulsive movements were partial, being confined to the face, or to a single limb. In fourteen of the thirty-three cases, the convulsions were succeeded by vertigo and cephalalgia.

Swooning, complete or incomplete, was noted in about a fifth of the cases; viz., seven times.

Disturbed vision was noted in six of the thirty-three cases. This consisted in double vision, or in the presence of flocculi, of *muscæ volitantes*, and of luminous flashes. One patient is mentioned as having had periodical blindness.

Buzzing in the ears is only mentioned as having occurred in three of the cases.

A pricking, or gnawing sensation at the epigastrium existed in fourteen of the thirty-three patients. The symptoms, now enumerated, rarely existed singly in one patient, and two, or three of them were generally present in the same individual.

Whenever one or more of the above symptoms are observed, and no other explanation can be given, an investigation should be made, to determine whether they may not depend upon Tape-Worm. If the physician discover that the patient have a gnawing at the stomach, capricious, or insatiable appetite, abdominal pain, a feeling of general prostration, or itching at the entrance of the nostrils or anus, there can be little doubt of the presence of the parasite. M. Legendre believes, that the best time for giving vermifuge is when the symptoms are most urgent, or when some parts have been spontaneously voided. He says, that Wawruch, of Vienna, in an analysis of two hundred and six cases, attributes such occurrences to lunar influence; asserting that they occur most frequently at the full moon, or during its decline, and that it is, likewise, at these times that the patient suffers from an exacerbation of the symptoms. It was not till M. Legendre had finished his researches that he became acquainted with the analysis of M. Wawruch's paper, published several years ago; and which, from its value, we subjoin.

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[1] LONDON JOURNAL OF MEDICINE, vol. for 1850, p. 896.

[2] The following are stated to be the sources whence the cases have been derived. "*Archives Gén. de Méd.*, 1840. *Gazette Méd.*, 1839, p. 601; 1840, p. 633; 1843, p. 38. LOUIS, Observations recueillies à l'hôpital de la Charité sur la Tænia. *Archives Gén. de Méd.* Mérat, du Tænia et de sa cure radicale par l'écorce de racine de grenadier, obs. 14, 15, 17, 18, 19, 22, 24, 25, 26, 27, 82, 108, 119, 120, 121, 142, 154, 155. 157."

WAWRUCH ON THE CAUSES AND SYMPTOMS OF TAPE-WORM.

The following is an extract from an abstract, contained in the *Gazette Médicale* for 2nd October, 1841, of a paper published by Professor Wawruch in the *Medicinische Jahrbücher der Œsterreichischen Staaten.*

During the period of twenty years, Dr. Wawruch treated 206 persons affected with Tænia; 71 men, and 135 women. The oldest person was aged fifty-four; the youngest, three and-a-half years. Twenty-two were under fifteen years of age; and among these were six girls who had not menstruated. Most of the patients were from fifteen to forty years old. The patients belonged to the middle and lower classes; they nearly all inhabited the district lying along the Danube, or lived in low and damp dwellings. They followed very different occupations, and their mode of life was various. It is remarkable, that the same conditions which give rise to scurvy in Vienna also produce Tape-worm. The articles of food which seemed chiefly to engender Tape-worm, were bad bread, meals of milk, butter, cheese, potatoes, pork and mutton, and bad water. The diseases which preceded the formation of Tænia were gastric and cutaneous affections, but especially gastric and intermittent fevers. There were observed, forty-three cases of intermittent fever, twenty of gastric fever, sixteen of typhoid fever, ten of ringworm and herpes, forty-two of itch, eight of scarlatina, thirteen of measles, and two of chronic urticaria. Scurvy, syphilis, chlorosis, and other diseases which affect digestion, were also observed to precede Tænia; but, in general, few of the individuals affected with Tape-worm had not had lumbrici when young. The influence of hereditary predisposition is very doubtful. Dr. Wawruch only saw two instances; in one, a mother and daughter, in another, a father and son, had Tænia. Irregularity of the menstrual function seemed common; thus, thirteen females had only menstruated at the age of 16 years, twelve at 17, nine at 18, seven at 19, and one at 20. The duration of the disease was from a few months to ten, twelve, fifteen, twenty, twenty-five, and, in one case, even to thirty-five years. Of the 206 patients, three only, who were foreigners, had *bothriocephalus;* the others had *tænia solium.*

Symptoms. The symptoms of Tænia are very various: the following are stated by Dr. Wawruch to be the most constant.

1. Dull pain in the frontal region, vertigo, noises in the ears; and, in some, a kind of idiosyncrasy for music. 2. Eyes dull, surrounded by a blue ring; œdema of the upper eye-lid; pupils dilated; frequent involuntary action of the muscles of the eye; various aberrations of sight, as amblyopia, diplopia, or muscæ volitantes. One patient complained of a periodical blindness during the day. 3. Frequent change in the colour of the face; lips lead-coloured; a peculiar look about the mouth and nose; the appearance of general cachexia is not constant, for the patients often preserve a flourishing aspect for some time: many of them say they have become thinner. Anorexia, alternating with such a voracious appetite, that the patients faint if they are not supplied quickly enough with food; desire for certain articles, as carrots, milk, wine, bread, etc. 5. Fetid breath, clayey taste, loaded tongue, salivation, nausea, and even vomiting of liquid, as clear as water, in the morning. 6. Itching of the nose and anus, and of the vagina in females; grinding of the teeth, especially during sleep; accumulation of a clear fluid in the mouth; transient heat, languor, palpitation. The sensation of a cold hand pressing on the heart (considered as a pathognomic symptom by Reinlein) has never been observed. 7. Abdomen tumefied; borborygmi; a sensation of suction, constriction, and pricking, around the umbilicus, and undulatory movements, as of a foreign body in the intestines,—especially in the morning; cessation of these symptoms after taking farinaceous food, hot bread, or *café au lait*; frequently diarrhœa, alternating with constipation. 8. When the disease has continued for some time, and the patients are of an irritable temperament, there often arise a train of nervous symptoms,—as melancholia, syncope, aberrations of the senses, disturbed sleep, frightful

dreams, partial and general convulsions, chorea, epilepsy, aphonia, and loss of speech. 9. The most certain pathognomonic symptom is the evacuation of one or more portions of Tape-worm, either spontaneously, or after certain severe illnesses,—as scarlatina, typhoid fever, pneumonia, etc.; or after the use of certain articles of food, as garlic, horse-radish, cucumber, etc.; or after the administration of anthelmintic medicines. The portions are sometimes evacuated at indeterminate periods, but generally at new moon, or at the decrease of the moon; and, at these times also, the other symptoms are increased in severity.

NEW METHOD OF APPLYING NITRATE OF SILVER TO THE LARYNX, OR TRACHEA.

Dr. J. C. Thomas, of Baltimore, U.S., thus writes in the *Lancet* for July 13th, 1850. Every one who has tried must be aware of the difficulty of introducing Nitrate of Silver into the Trachea, or Larynx, either in powder, or solution, according to the plan proposed by the French physicians.

If a piece of lunar caustic be held, with moderate firmness, on a small grindstone which is revolving rapidly, a very fine dust from the salt is thrown off in considerable quantities into the air. By holding the open mouth within a few inches of the stone, and drawing in the breath, any desirable amount of the powder may be inhaled. I am not in the habit of directing more than four or five inhalations at a time. A very simple, portable machine for the purpose, contained in a box, may be made by any mechanic of tolerable skill. All that is required is a stone about five, or six inches in diameter, half-an-inch thick, on the same shaft with a small pulley, which is connected by an elastic band with a wheel six, or eight times the size of the pulley. The caustic, which should be free from copper, or nitrate of potass, may be held on the surface of the stone by the hand, or by a spiral spring adjusted by a screw. I have been much pleased with the effects of this method, in recent catarrh, obstinate chronic cough, and various affections of the Larynx, and I have little doubt that it will be found useful in all cases where the use of the Nitrate of Silver is indicated.

DIAGNOSIS AND TREATMENT OF PULMONARY CONSUMPTION.

Dr. John Hutchinson, Assistant-Physician to the Hospital for Consumption and Diseases of the Chest, truly remarks, that it has become too common to trust entirely to the ear in the diagnosis of thoracic disease, to the neglect of the three great symptoms of pulmonary lesion, viz:—

1. Loss of weight.
2. Diminished thoracic mobility.
3. Abnormal breathing sounds.

Each of these topics is instructively illustrated by the author. "A person may lose weight, and not have consumption; but he cannot have consumption, and not lose weight. This striking feature of consumption, viz., loss of weight, is now met in the all-prevailing treatment of this day, the administration of cod-liver oil, a medicine intended to increase the weight by the deposition of fat, which arrests the deposition of tubercular matter, as if fat and tubercle were the antitheses to each other." "It is wonderful to contemplate to what an extent phthisis can rob the body of matter; one man fell from 168 lbs. to 89 lbs.; and Freeman, the American giant, from 271 lbs. to 141 lbs. (nearly 50 per cent.), and shrank nearly four inches in stature! Such is the effect of phthisis pulmonalis. In fact, the great feature of this disease is LOSS OF WEIGHT. All other abnormal conditions are but secondary to this; and if our patient have not lost weight, we have no right to say that consumption is present. We have not seen an exception to this in one thousand cases. The scales are therefore the most important instrument for diagnosing in this disease." [*Medical Times*, Aug. 10, 1850, etc.]

OBSTETRICS.

DRS. BARNES AND SACHS ON ANÆSTHESIA IN MIDWIFERY.

Dr. Robert Barnes has published, in the *Lancet* for July 13th and 20th, 1850, a tabular analysis of twenty-seven cases of Natural Labour, in which Chloroform was administered by Dr. Sachs, in the Berlin Lying-in Hospital, and has appended some comments on the use of Anæsthetic agents in Midwifery. He is a strong opponent of this practice; and, in seeking to substantiate his opinions by the facts contained in Dr. Sachs' cases, he sometimes slightly transgresses the bounds of legitimate deduction. Allowing, however, for his being occasionally led away by preconceived notions, his remarks are worthy of much attention. The registered opinions of the opponents of Anæsthetic midwifery now before us, are particularly valuable, as they are accompanied by a statement of facts, from which the reader may draw his own conclusions. The time is approaching, when, from a full and honest comparison of data, the proper mean of the use of Anæsthesia in obstetric practice will become fixed. The antagonism of parties is rapidly subsiding: for now the intoxication by chloroform of all parturient women, (as a matter of routine,) has happily very few advocates: though an increasing number of sound practitioners are in favour of the practice in certain cases.

The following is the table of Dr. Sachs' cases, as drawn up by Dr. Barnes.

TABULAR ANALYSIS OF TWENTY-SEVEN CASES OF NATURAL LABOUR, IN WHICH CHLOROFORM WAS ADMINISTERED BY DR. SACHS.

No	Age, etc.	State of Labour.	Effects of Inhalation on			Remarks.	Result to	
			Pulse and Respiration.	Uterus.	Sensation.		Mo.	Chd.
1	24, prim.	24 hrs., pains strong ev. 3 min.	P. r. from 78 to 102; f. to 90. Resp. r. fr. 24 to 36, f. to 28.	Pa. stopped for 7 min.; ret. weaker and seldomer than bef. inhal.; rec. strength when eff. of inhal. had gone off.	Loss of cons. and sens., screamed at passg. of head.	... ...	R.	R.
2	21, prim.	20 hrs., memb. rupt., pa. of uncertain freq. and strength.	P. somewhat dim. in freq.	1st. inh.; pa. repeatedly stopped by renewed inhal. 2nd inh., compl. relax.; no percept. eff. on pains.	Groaning and weeping.	Quiv. of lips, shuddering dur. pains. Shiver. after del.	R.	R.
3	21, prim. (twins) very plethoric.	20 hrs.; memb. rupt.; hd. down; pa. ev. 2—3 min.; str. reg.	P. 90, somewhat incr.	Did not aff. contr., or retard del.	Groaned as in pain.	Some fever; headaches aft. del.	R.	B. alive, d. after.
4	29, mult.	Hd. ent. pelvis.	... ...	Seemed to incr. intens. of contr. and lab.	Shrieked at pass. of head: recol. nothing.	... ...	R.	R.

No.	Age, etc.	State of Labour.	Effects of Inhalation on			Remarks.	Result to	
			Pulse and Respiration.	Uterus.	Sensation.		Mo.	Chd.
5	27, prim.	Hd. deep in pelv.; memb. rupt.; os ut. compl. dilat.	1st inh., P. 92, f. to 72; last inh., snortg. resp., 44; p. 68.	Pa. arr. at first; ret. of full str.	Groaning; at one time gt. restlessn. and tossing abt.; recol. nothing.	... ...	R.	R.
6	23, prim.	12 hrs.; hd. deep; memb. rupt.; pa. str., ev. 2 to 3 min.	P. 82, f. to 76; r. to 80 on awakg.	Pa. compl. arr. 7 min.; then ret.	Cried out as shoulders passd. while still under Chl.	... ...	R.	R.
7	33, mult. two former lab., easily term. in 6 hours.	9 hrs.; hd. high; memb. not rupt.; os ut. not fully dil.; pa. short, ev. 4 min.	P. 82, r. to 96, f. to 80.	1st inh., pa. arr. 6 min. then ret. 2nd inh. pa. arr. 9 min.; ret., and memb. broke. 3rd inh., pa. arrest.	Groaned; tossed about just before birth. Recoll. nothing.	... ...	R.	R.
8	20, mult.; form. lab. quick.	Hd. near ext. parts, very strong pa. every 2 to 3 min.	P. 96, unalt.	Pa. not arrest.	... ...	... ...	R.	R.
9	prim. (twins)	Memb. not rupt.; os ut. ptly. exp.; pa. moderate.	P. 81, r. to 102.	Pa. arr. 3 times, ret. weaker as Chlor. went off.	Groaned; recoll. feeling pain.	Metritis and dysentery after deliv.	R.	B. alive, d. after.
10	25, prim.	Hd. near outlet; pa. strong.	P. 68, r. to 88 and 96, became irr.; resp. r. to 48, f. to 24.	Lab. slightly arrested.	Groaned; recoll. nothing.	2 hrs. after del. had conv.; had been epil.; d. in 19 hrs.	D.	R.
11	33, prim.	Hd. above outlet, pa. good and str., ev. 2 to 3 min.	P. 96, then 90 to 86; resp. incr. to 36.	Pa. arr. for 11 min.	Uneasy movements during pa.	... ...	R.	R.
12	24, prim. (Absc. of labia.)	Hd. at outlet; memb. rupt.; os fully open; pa. ev. 2 to 3 min.	P. 112, f. to 88; resp. 60.	Pa. arr. for a time.	... ...	Perin. somewhat torn.	R.	R.
13	Prim.	Hd. at outlet, emerging.	... ...	Lab. not arrested.	... ...	... ...	R.	Putrid.
14	27, mult.	Hd. near outlet; memb. rupt.; pa. strong, freq.	P. 88, f. to 84—92; resp. 20, r. to 28—42.	Pa. compl. arr.; uter. relax.; ret. when Chl. went off. Eff. on lab. complete failure.	Groaned and complained at ev. pa.	... ...	R.	R.

No.	Age, etc.	State of Labour.	Effects of Inhalation on			Remarks.	Result to	
			Pulse and Respiration.	Uterus.	Sensation.		Mo.	Chd.
15	30, mult. (4 easy lab.	Hd. at mid. of pelv.; memb. rupt.; os exp.; pa. str. ev. 2—3 min.	P. not affected; resp. accel.	Pa. delayed somewhat.	Answered quest., felt no pain.	... ...	R.	R.
			QUANTITY OF CHLOROFORM SMALLER; LESS DEGREE OF NARCOTISM INDUCED.					
16	Mult.	Hd. at outlet; pa. strong.	... ...	Lab. not delayed.	... ...	... ...	R.	Putrid.
17	22, prim. (period headaches.)	Hd. at outlet; memb. rupt.; pa. str., very painful, inclin. to delir.	... ...	Pa. slightly affected.	Groaned.	Strong shivering foll. deliv.	R.	R.
18	Sec. child. (1st labour painful.)	Hd. at outlet; memb. rupt.; pa. every 3 min.	... ...	Pa. stopped 5 min.; ret. as before when Chl. discontinued.	Refused to renew inh.	... ...	R.	not mntd.
19	37, prim.	14 hrs. in lab.; hd. at outlet; memb. rupt. artificially; pa. reg. ev. 2 min.	P. 112, f. to 75, r. to 100; resp. 55, f. to 48.	Pa. slightly enfeebled at 1st inhal.	... ...	Perin. somewhat torn.	R.	R.
20	24, prim.	Hd. at outlet, pa. str. and freq.	P. 76, r. to 81; resp. 20, r. to 24.	Pa. slightly aff.	... ...	Perin. torn to ext. of 1 in.	R.	R.
21	21, prim.	Hd. at outlet.	... ...	Pa. weak at first; afterw. recov.	Hd. nearly born when Chl. commenced. Under infl. 11 min.	... ...	R.	R.
22	26, 2d chd. (1st. labour easy.)	Hd. at outlet; pa. str. ev. 1, 2, 3, 4 min.	... ...	Pa. increased.	Hd. at point of expuls. when Chl. comm.	... ...	R.	R.
23	32, prim.	Hd. at outlet.	P. 104, r. to 120, f. to 96; resp. 32, 30, 48.	Pa. not affected.	Ditto.	... ...	R.	R.
24	27, 2d chd.	Hd. at outlet; pa. ev. 2 min.	P. 72, r. to 82; resp. 30, r. to 36.	Hd. quickly expelled.	Ditto.	... ...	R.	R.

No.	Age, etc.	State of Labour.	Effect of Inhalation on			Remarks.	Result to	
			Pulse and Respiration.	Uterus.	Sensation.		Mo.	Chd.
25	24, prim.	Hd. approaching outlet; pa. ev. 2 min.	P. 60, r. to 68, then f.; resp. 30, r. to 38.	Pa. somewhat ret. at first: chd. b. 39 min. after inh. consc.	... ...	... ...	R.	R.
26	35, prim. (chron. bronc., anasa.)	Hd. near outlet.	P. 88, f. to 72; resp. snorting, deep, 30.	Pa. arr. at first.	Groaned during pa.	Perin. torn sev. lines.	R.	R.
27	20, prim.	Hd. appr. outlet.	P. and resp. little aff.	Pa. slightly retarded.	... ...	... ...	R.	R.

We now proceed to give an abstract of the remarks made by Dr. Barnes on the various points of interest presented in the above table.

1. Effects of Chloroform on the Uterine Contractions. Dr. Barnes says: "Out of fifteen cases in which complete Anæsthesia was induced, in eleven the Uterine Contractions were stopped, or enfeebled, and the labour consequently retarded. Out of twelve cases in which a minor degree of narcotism was induced, in eight the Uterine Contractions were retarded. The Chloroform appears to have been given very cautiously; its administration was, in most cases, withheld until the membranes were ruptured, the os uteri fully expanded, and the head pressing on the perinæum; in short, until the delivery was on the point of completion. Whenever inhalation is practised early in labour,—that is, before the expulsive stage is advanced,—Uterine Contraction is always impaired, and labour retarded. If the inhalation be deferred to a later period, the arrest of contraction in the womb is not so constant. So great is the accumulated excitability of the spinal marrow at the epoch of parturition,—so intense is the excitation of the esodic nerves, distributed in profusion about the orifice of the vagina, by the contact of the fœtal head,—that a moderate inhalation is quite ineffectual in subduing the vehement activity of the diastaltic function.[1] The diminution of the Uterine Contractions under Chloroform, shows conclusively that Chloroform exercises a depressing effect, analogous to that of shock, on the spinal centre. It also proves, beyond a doubt, that Chloroform exerts a poisonous action upon the spinal and ganglionic system at the same time as it does upon the brain."

2 Laceration of the Perinæum. This occurred in four cases; and Dr. Barnes hence considers that Chloroform does not prevent this accident. The relaxation induced by Chloroform, he says, is probably simply a relaxation of the muscular fibre; whereas the natural relaxation extends to the cellular tissue, and to the skin. He further observes: "The physiologist will also observe in this stage a proof, that pain—the psychical perception of pain—has its use. The abolition of pain has its danger. It has been remarked, that Chloroform inhalation, towards the completion of the expulsive stage, does not always arrest the action of the expiratory muscles. These cannot act efficiently, unless the chest contain a certain quantity of air, shut in by the closure of the glottis. It is by means of the powerful action of the expiratory muscles, added to the contraction of the uterus, that the head is driven through the ostium vaginæ. The danger of Laceration of the Peri-

[1] Dr. Tyler Smith thinks it proved, that "under the influence of Chloroform, stimulation of the spinal marrow is produced in the first instance.....In some cases, when the anæsthetic is used in great moderation, its effects, however long continued, may, perhaps, be slightly stimulant." London Journal of Medicine, December 1849, p. 1111. [Editor.]

næum would, in many cases, be great, had not Nature provided a safeguard against excessive, and untimely expulsive energy—that safeguard lies in pain. It did not escape the acute philosophic observation of Denman, that a cry, uttered at the acme of a bearing-down effect, uncontrollable by the will, by opening the glottis, and permitting the escape of the retained breath, at once broke the force of the expulsive nisus, reduced the pressure on the perinæum and uterus, and saved both from rupture. . . . Emotional influence is annulled when Anæsthesia is induced; when the sensation of pain is removed, the system takes no alarm at impending danger; the glottis remains closed; the expiratory muscles continue to act with all the blind violence of the diastaltic function; the order of parturition is subverted; an essential link in the chain of the phenomena of labour is wanting; the head is driven with irresistible fury upon the perinæum, before the process of dilatation is complete. It is not surprising that laceration is the result. It is fortunate that, at this stage of labour, the perinæum more readily gives way than the uterus."

Dr. Barnes certainly has not proved that the Chloroform is chargeable with the Laceration of the Perinæum in the four cases in the table. The women were all primiparæ; one was 37 years of age, and another 35;—patients therefore particularly liable to the accident.

3. Convulsions. These followed delivery, in one case, in two hours, and the patient died in nineteen hours. No doubt, the patient was predisposed by her previous epileptic attacks. In another case (2) quivering of the lips and shivering occurred during the anæsthetic state, and shivering fits were renewed after delivery. In case 17, also, strong shivering followed delivery. Ether and chloroform have been found the most effectual means of exciting a fit in epileptic patients: and Dr. Barnes thus sums up his remarks on the probability of chloroform inducing puerperal convulsions in an epileptic woman—

"Labour is the exciting cause of Convulsions in epileptics.

"Chloroform is a certain exciting cause of a fit in epileptics.

"Combine these two conditions; give Chloroform to an epileptic patient in labour. What will be her chance of success?"

These remarks of Dr. Barnes are excellent, so far as they point out the danger of administering chloroform to epileptic women: but the argument must be confined to this class of cases.

4. Metritis and Dysentery. Dr. Sachs refers to Metritis as one of the diseases following the use of Ether: and M. P. Dubois, having observed two cases of Puerperal Fever in which Chloroform had been employed, concluded that they must stand in the relation of cause and effect. Dr. Barnes does not seem to lay much stress on this point.

5. By administering Chloroform, do we obtain for the Patient escape from pain, and from the consequent shock to the system? We have here to consider the following questions:

a. Is the pain of labour physiological or pathological—that is, is it injurious or beneficial in its action?

b. Is the abolition of the sensation of pain in the parturient woman unattended by danger?

c. Is it true that the anæsthetic agents in use really annihilate pain, and save the system from the consequent shock?

(*a*) Dr. Barnes refers to a lecture published in the *Medical Gazette*, Oct. 1849, for some of the considerations which tend to prove that the pain of labour is physiological, and subservient to a useful end.

(*b*) Dr. Barnes answers this question in the affirmative. He believes that, in addition to other dangers, there is a shock, ofttimes a deadly one, from Chloroform, as well as from pain. In Dr. Sachs' cases, at the commencement of inhalation the pulse was frequently raised 20 or 30 beats in the minute, and the respirations were increased to 40, 50, or 60 in the minute; the after

effect being to lower the pulse and respiration below the natural standard. This seems to Dr. Barnes still more dangerous, as it indicates a depressing action on the spinal and ganglionic systems. He thinks it moreover proved, that the sudden impulse of blood, and that containing a poison, may produce a shock to the nervous centres; and he refers to the occurrence of apoplexy, puerperal convulsions, fatal syncope, and puerperal mania.

(*c*) In reply to the third query, Dr. Barnes observes, "What mean those groans, that agitation, those suppressed mutterings or open cries, which all have observed in patients undergoing surgical operations in the depth of so-called anæsthetic stupor? Are they the expression of suffering, or are they not? Can it be maintained, that because patients on awaking express no recollection of that suffering, there was therefore no painful impression conveyed to the sensorium? In the case of parturition, the unconscious mother is as ignorant of her delivery as of its painful accompaniments. It might as reasonably be urged on that account that the child itself had not been born. Should we be justified in flogging a drunken man, acting on the anæsthetic principle, that since he might not *feel* the infliction at the time, or *remember* it afterwards, he could not be hurt? Is there no constitutional injury in this case independent of consciousness? The law of the sequence of shock on the nervous centres upon excitation of the peripheral nerves is as inevitable, as the sequence of effect upon cause. It has been erroneously concluded that Chloroform simply narcotises the brain, or rather, induces a deep sleep, during which state there is complete unconsciousness of pain, and a consequent avoidance of the shock which pain produces on the system. It is further assumed, that chloroformisation, carried to the extent which is necessary to subdue pain, does not affect the spinal marrow or the sympathetic system. A strict analysis of the nervous system, aided by experiment and observation, will show the fallacy of these conclusions .....

"In parturition as in surgery, in physiology as in pathology, the physical shock of nervous excitation of injury cannot be escaped from. In parturition as in surgery, the emotional shock of nervous excitation, or injury, may be avoided. In surgery, this may be an invaluable boon. Is it so in parturition? It is more than doubtful. The emotional influences, both those excited by the sensation of pain, and those independent of pain, are of immense importance in this complicated function. The voluntary power, too, is often of the highest utility. In woman, at least, the brain should be allowed to retain its integrity, to exert its beneficial controlling influence over her own conduct, as well as its salutary aid in attaining a safe delivery.....

"There is nothing better established in physiology, than the strict dependence of all the functions of the economy on the nervous system. Further than this, the nervous system itself is dependent for its healthy powers upon the mutual action and reaction of its component parts. The experiments of Dr. Marshall Hall demonstrate the analysis of the nervous system into three elements; the brain, the spinal system, the ganglionic system: they show, indeed, that each executes distinct functions. But they execute them only long enough to prove the physiological law. No one of the nervous centres can long continue to act or to live separately from the rest. The diastaltic power of the spinal marrow is soon exhausted, if the brain be removed. The peristaltic power is soon expended, if the viscera be cut off from their connexion with the spinal marrow. Inversely, the brain also soon ceases to act if severed from the spinal and ganglionic systems. Parturition is normally effected by the combined, or successive agency of *all* the nervous centres. Peristaltic, diastaltic, and voluntary motion, all contribute to the expulsion of the child, and the subsequent safety of the mother. Not one of those forces can be properly manifested in due proportion as to power, time, or succession, without the integrity of the others.....

"I am not aware that the most distinguished advocate for anæsthetic midwifery has modified his opinion, or his doctrine, as to the extent to which Chloroformisation should be carried in labour. The extent which he de-

scribes, corresponds with the fourth degree of Dr. Snow: in this degree, narcotisation is complete. Anæsthesia, therefore, as recommended by Dr. Simpson, is an unmistakeable reality. There can be no hesitation in concluding, that were the practice generally carried out to that extent, numerous deplorable and fatal accidents must occur. But a simple explanation lies in this fact; viz., that Chloroform is very rarely given to the extent necessary to produce its characteristic effects; in other words, that *anæsthetic midwifery is no longer a reality.*"

In concluding, Dr. Barnes makes the following remarks. "In the facts this paper contains, I have offered a complete vindication of what has been called the *à priori—i.e.*, the physiological—argument against Anæsthesia in parturition. *A priori* and *à posteriori* reasoning, have, at length, though travelling by different roads, met at the same point. But the *à posteriori* conviction has been obtained at a fearful cost. Dr. Sachs refers to fifteen cases of natural labour, in which anæsthesia was induced by ether. Arrest of the pains was the common effect. In one case, it became necessary to use the forceps in consequence. Metritis and death followed the Anæsthetic and instrumental interference. In one case, convulsions ensued. Out of the twenty-seven Chloroform cases, in eighteen, more or less diminution of the uterine contraction was induced; in four, there was laceration of the perinæum; in one case, metritis followed; in twelve, there were uttered groans, and other manifestations of suffering, although the patients did not remember it on recovery; in one case, puerperal convulsions occurred, and death ensued in nineteen hours; in two others, there was ominous threatening of the same appalling catastrophe."

DR. HIPPOLYTE BLOT ON ALBUMINURIA AND PUERPERAL CONVULSIONS.

In the *Union Médicale* for October 10, 1850, Dr. Hippolyte Blot states that he has arrived at the following conclusions, from an examination of 205 patients, seen during his *internat* at the Maternité.

1. Albuminuria is frequent in pregnant women (41 out of 205).
2. In *almost* every case it is produced by simple renal hyperæmia.
3. Primiparæ are remarkably predisposed to this affection: but this has not been yet explained.[1]
4. To the pathognomonic sign of albuminuria, the presence of albumen in the urine, there are added other more or less variably concomitant symptoms; as (*a*) Dropsy, either of the cellular tissue (œdema) or of the serous membranes. This dropsy is very often absent; and, when present, disappears very rapidly after delivery, sometimes in an hour. (*b*) Lumbar pains, which are scarcely ever observed, and of which it is very difficult to understand the signification during pregnancy.

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[1] The readers of the Journals may remember, that a reasonable explanation was offered by Dr. Cormack, in his paper on Puerperal Convulsions, published in the London Journal of Medicine for 1849, p. 522. Having pointed out the way in which toxæmia is induced by pressure on the emulgent veins causing renal congestion, Dr. Cormack remarks, at p. 533:—"In primiparous women there is—as a general rule—a greater tenseness and rigidity of the abdominal parietes; and therefore in them the gravid uterus is much more apt, by its inward pressure, to cause dangerous renal congestion. *This obviously explains why primiparæ are the most liable to Puerperal Convulsions;* and why convulsions in them are chiefly of a renal, and therefore of a severe epileptoid character. It is probable that, in them, albuminuria is associated with the œdema of the face and the upper part of the body, which is sometimes seen in many of them who escape convulsions: for it must be remembered, that the *albuminuria and œdema are simply signs of congested kidney,* and that congestion may exist—and indeed often does exist—to an extent quite sufficient to cause these phenomena, and yet be inadequate to produce toxæmia of sufficient intensity to cause convulsions."

5. The albuminuria of pregnant women is almost always unaccompanied by general reaction. Dr. Blot has not met with a single case of amaurosis.
6. In the majority of cases, the albuminuria of pregnant women disappears almost immediately after delivery.
7. Contrary to the generally received opinion, the albuminuria of pregnancy is often of little importance, when it is not accompanied by cerebral congestion (34 cases out of 41 were unattended by any complication). It has no marked influence on the progress of pregnancy, on abortion, on premature delivery, on the development and life of the fœtus, on the duration of labour, on the progress and sequelæ of parturition, or on the secretion of milk. Œdema is not constant; about one-half of the women who had albuminuria, had no infiltration whatever.
8. All the cases of puerperal convulsions which Dr. Blot has seen have been accompanied by albuminuria; but the converse is fortunately far from being the case.
9. The relation between albuminuria and eclampsia cannot be doubted, but its nature is unknown. Perhaps, Dr. Blot thinks, these morbid states depend on the same cause,—a simultaneous congestion of the cerebro-spinal axis and of the kidneys.

Dr. Blot then relates at length a case, in which a primiparous woman was attacked with Puerperal Convulsions. Her urine was albuminous, but there was no trace of œdema. The albumen disappeared on the day following delivery; but she died with tetanic symptoms ten days after. On post-mortem inspection, the kidneys were found to be the seat of slight vascular injection. M. Rayer examined then, and found no traces of nephritis. The calices and pelvis contained a slightly transparent red liquid, which was found to consist of epithelium cells of various forms and sizes, such as Dr. Blot had already found in the bladders of two women who had had albuminuria. From this case, he draws the following conclusions: 1. That albuminuria may exist without structural renal disease. 2. That eclampsia can occur when albuminous nephritis is entirely absent.

LOSS OF SPEECH DURING THE LATTER WEEKS OF PREGNANCY: CONVULSIONS FOLLOWED BY MANIA: RECOVERY.

Mr. Sidney Henson relates, in the *Lancet* for July 27th, the case of a young woman, pregnant with her second child, to whom he was called on the 29th of last December, but found her labouring under spurious pains. These continued till the 1st of January, when convulsions occurred for about two hours. The next day she was delirious, and remained so till the morning of the 5th. On the evening of the 6th, the pains being very violent, sixty minims of laudanum were administered, and followed by mxx of solution of acetate of morphia, and a drachm of chloric ether. This produced a deep sleep for eight or nine hours, after which she awoke quite conscious. She had not spoken since she had the convulsions: but could now articulate a few words with some difficulty. On January 17th, she was delivered of a living, but feeble female child, and was immediately able to speak without any difficulty whatever, and rapidly recovered.

DR. E. WILLIAMS ON A JAPANESE REMEDY FOR STERILITY.

Among the many botanical remedies which popular experience has made common in Japan and China, is one that is believed to exert specific influence upon the uterus, more particularly in cases of sterility and checked menstruation: and, from the numerous cases in which I have administered it with advantage, I am inclined to think it will become a valuable addition to our

materia medica. The tree from which the preparation is made is one of the order *Ternstromiaciæ*, growing to the size of the English laurel, with leaves somewhat larger than the congou tea: they are alternate, lanceolate, serrated, downy on the under side, and emit, when bruised, a strong odour resembling pulegium and sabine. Its properties are said to vary considerably with the age of the tree, likewise as to its being gathered at the full or wane of the moon, and as to the season of the year. It is perennial, and grows best in moist and sheltered places. The mode of preparation is to take a quantity of the leaves, macerate them in as much rice-spirit (*samshu*) as will just moisten them, for six hours; then express and give about a teaspoonful every hour. Two or three doses will invariably bring on the menstrual secretion, which can be maintained by a dose or two daily for any length of time. . . That the root is aphrodisiac in its effects, I have not the slightest doubt, as I have administered it to animals with obvious results, and without any ill effects even to mules and castrati.

Having brought home some of the plant, I shall feel happy to forward some of the preparation to any established member of the profession, on the promise of giving me the result of the trial, and presenting it according to the instructions which I will forward with it. [*Lancet*, September 14, 1850.]

DISTORTION OF PELVIS: ANTEVERSION AND PROLAPSUS OF GRAVID UTERUS: CÆSAREAN SECTION.

Mr. R. W. Sannemann relates the following case in the *Lancet* for July 13, 1850.

Case. Mrs. Y., aged 42, of diminished stature and antiquated features, had given birth to six children, the last of whom was delivered by craniotomy seven years ago. Eleven years since, she had struck her spine on a sharp edged surface, in consequence of a stool slipping from under her. Malacosteon, with contortion of the spine, and diminution of stature, supervened: the general health was also impaired by dyspeptic symptoms, and her urine was loaded with phosphates.

In January 1848, when she was in the seventh month of pregnancy, an examination *per vaginam* was made. The pelvis was greatly deformed, the acetabula being pushed backwards and inwards towards the sacrum, and the ossa pubis forming a projecting angle at the symphysis: the uterus was greatly anteverted. At 2 a.m. on the 28th February, moderate labour pains commenced. The uterine tumour formed a large pendulous body projecting over the symphysis pubis, with its lower border lying between the thighs: it could be elevated or moved to either side with ease. The abdominal walls were very thin. On examination *per vaginam*, the tip of the finger could just reach a spongy mass, apparently the placenta: there was considerable hæmorrhage during the pains. The small dimensions of the pelvis, and the debilitated state of the patient, precluded the possibility of delivery except by the Cæsarean section, which was performed twelve hours after the accession of pains. The uterus was at once exposed by an incision, five inches in length, over the most projecting part of the tumour, to the right of the mesial line. The uterus was next opened, and the child with its secundines, which presented at the os uteri with the shoulder of the child, were extracted. The organ contracted rapidly and firmly. The child was dead; and the mother expired at 2 o'clock on the following day, twenty-three hours after the operation, after having had three epileptic attacks. No bad symptoms appeared till twelve hours after the operation. At the autopsy, the uterus was found firmly contracted, and containing a coagulum. The dimensions of the pelvis were—antero-posterior diameter scarcely two inches, transverse three inches; the acetabula projected upwards and inwards towards the sacrum, considerably lessening the oblique diameter. The other viscera appeared healthy.

THE ALLEGED GALACTAGOGUE AND EMMENAGOGUE EFFECTS OF THE LEAVES OF THE CASTOR-OIL PLANT.

Since the publication of Dr. Tyler Smith's paper in our last number, p. 951, two notices have appeared in the *Lancet* which certainly tend to confirm the belief that the Leaves of the Castor-Oil Plant really have, to a great extent, the properties imputed to them.

In the *Lancet* for 12th October, p. 439, Dr. Cormack says: "In corroboration of the statements of Drs. M'William and Tyler Smith, in the *Lancet* and London Journal of Medicine, it is interesting to know that the Galactagogue properties of the Leaves of the Castor-Oil Plant are appreciated by the negresses of Jamaica. A gentleman, intimately acquainted with the popular remedies and nostrums of that island, in reply to my inquiries, writes as follows: 'I have seen the oil-nut leaf used by the negro women (particularly by the young women), to poultice their breasts, to use their own language, *to make piccaninny suck belly-full easy*, or in other words, to cause a copious flow of milk.' As the Castor-Oil plant can be easily grown in the neighbourhood of London, I hope that during next season many practitioners may test the Galactagogue properties of the Leaves."

Dr. M'William, in the *Lancet* of 26th October, calls attention to the following extract from the narrative of a voyage to the coasts of Chili and Peru, performed during the years 1712, 1713, and 1714, by M. Frezier, engineer in ordinary to the French king, from which it would appear that the Spaniards of Peru were acquainted with the Galactagogue qualities of the Leaves of the Castor-Oil Plant, so far back as the early part of the eighteenth century. M. Frezier, in his description of San Vincente, in the Cape de Verde islands, states, that among other plants, he saw there the "Palma Christi, or Ricinus Americanus, by the Spaniards in Peru called Pillerilla; and they affirm that the leaf of it applied to the breasts of nurses brings milk into them, and applied to their loins, draws it away. The seed of it is exactly like the Indian pine-apple kernel. In Paraguay, they make oil of it."

MATERIA MEDICA AND PHARMACY.

CAZENTRE ON THE THERAPEUTIC PROPERTIES OF CEDRON.

The seeds of Cedron are employed, in Central America, as a remedy for the bites of serpents, for hydrophobia, and for intermittent fevers. The tree is of the size of an elm; it is of the family of cedars, and grows in the whole of Central America, but most abundantly in the neighbourhood of Carthagena. The seeds nearly resemble a large bean; they are inclosed in a matty, thick, ovoid drupe, of the size of a lemon. When fresh, these seeds contain an oily matter. The whitish farina which is obtained from them is extremely bitter; the bitterness is more lasting and disagreeable than that of sulphate of quinine. The following are the purposes to which they are applied.

1. Bites of Venomous Reptiles. The seeds of Cedron are the most powerful antidote known against the bites of the most dangerous serpents; the remedy is said to be infallible, if immediately applied. The natives of the country where it grows, always carry some of it with them when they go into districts infested with reptiles; hence fatal accidents are seldom heard of, although bites must be frequent.

Mode of Administration. Three or four seeds are scraped, and the farina is collected in a spoon, mixed with a little water or spirits, and immediately swallowed. Some of the powder, prepared in the same manner, is then applied to the wound, and covered with a piece of linen. The natives act more simply, by mixing up the grated seed, in the palm of the hand, with saliva, and swallowing it; they then immediately mix more, and apply it to the wound. A tincture, of rapid and certain effect, is also prepared by macerating the seeds in brandy. The first dose is often sufficient; but, generally,

it must be repeated twice or three times, according to the severity of the bite, and the subtilty of the poison introduced.

2. Intermittent Fever. Cedron is frequently employed, at Panama, for this affection; and, in some localities, it is the only remedy used. Dr. Cazentre has often heard persons speak of having been cured by it of ague, which had resisted quinine. He recommends an inquiry into the efficacy of Cedron as a substitute for cinchonà.

3. Hydrophobia. Dr. Cazentre has been informed by persons, that they had seen mad dogs cured by the administration of this remedy, and that a bitten animal would be preserved, if it were administered during the period of incubation. This subject Dr. Cazentre recommends to be also carefully investigated. [Abridged from *Journal des Connaissances Médico-Chirurgicales*, 1st October 1850.]

HYDRO-IODIC ETHER.

It is now about twenty-five years since Gay-Lussac discovered Hydro-Iodic Ether, yet this substance, though so volatile and rich in iodine, has never been employed medicinally. M. Hurette thinks that it is a powerful remedy, and has performed numerous experiments for the purpose of determining its physiological effects. The mode of administration is simple. One or two scruples of the Ether are introduced into a small bottle, and then covered with an extremely thin layer of water. The bottle is next applied to the nostril, and inspiration effected, the Ether passing up through the aqueous covering. Fifteen or twenty inspirations are sufficient. Absorption takes place so rapidly, that iodine may be discovered in the urine a quarter of an hour afterwards. The physiological effects are those of iodine in their highest degree; yet the author never experienced any other inconvenience, after numerous trials, than a slight coryza. It does not appear that M. Hurette has made any clinical experiments with the Hydro-iodic Ether; but he has proved that it may be employed without any inconvenience, and analogy warrants us in recommending it to the notice of the physicians attached to the Brompton Hospital. (*Medical Times*, Sept. 14, 1850; abridged from *Gazette Médicale*, July 27th.)

Mr. Nunneley's experiments on Hydro-iodic Ether (*Trans. of Prov. Assoc.* vol. xvi, pp. 204 and 315) suggest caution in the use of this substance. In eight experiments, six of the animals died; all, with one exception, some hours after the effects had apparently passed off, and even when insensibility had not been produced. Mr. Nunneley believes that, "whatever anæsthetic property it might possess, it never could be employed in practice." Additional experiments on the lower animals would be required, before its administration to the human subject could be warranted.

PREPARATION OF ATROPINE BY MEANS OF CHLOROFORM.

At a meeting of the Academy of Sciences of Paris, on 14th October, M. Bussy presented a communication from M. Rabourdin, druggist at Orleans, on the preparation of Atropine by means of Chloroform. The following is M. Rabourdin's process.

Fresh belladonna, gathered when commencing to blossom, is bruised in a marble mortar, and the juice pressed out; the latter is then exposed to a temperature of from 176° to 194° Fahr., to coagulate the albumen, and filtered. When the liquid is cold, four grammes (ʒi) of caustic potash, and thirty grammes (ʒvii and gr xliij) of Chloroform are added to each litre (1¾ pint); the whole is shaken for a minute, and then set aside. At the end of half an hour, the Chloroform, charged with Atropine, is deposited, having the appearance of a greenish oil; the supernatant liquid is decanted off, and replaced by a little water. The water is successively added, and removed, till it becomes clear; the Chloroform solution is then received into a tubular retort, and distilled by a sand-bath until all the Chloroform has passed into the receiver. The residue is then treated with a little water, acidulated

with sulphuric acid, which dissolves the Atropine, leaving a green, resinoid matter: the solution, when filtered, is colourless. To obtain the Atropine pure, it is sufficient to add carbonate of potass, slightly in excess, to collect the precipitate, and to dissolve it in rectified alcohol, from which, by evaporation, beautiful groups of needles of Atropine are deposited.

When the fresh plant cannot be obtained, well-prepared extract of belladonna may be employed. Thirty grammes of extract of belladonna, obtained from the purified juice of the plant, are dissolved in one hundred grammes of distilled water. The solution is filtered; and two grammes of caustic potash, and fifteen grammes of Chloroform, are added. The remainder of the process is analogous to that already described.

M. Rabourdin believes this method applicable, in general, to substances containing organic alkalies. If it do not become an economical means of preparing these products, it will at least serve, in some cases, to determine their proportion in certain materials. [*Gaz. Méd. de Paris*, 19 October, 1850.]

CANTHARIDAL ETHER, AND SOME VESICANT PREPARATIONS OF CANTHARIDES.

By treating Cantharides with a small quantity of Sulphuric Ether, a green liquid is obtained, very rich in Cantharidine, which easily combines with resins, fats, or collodion. M. Oettinger, of Munich, proposes to employ this, in various forms, for producing vesication.

Cantharidal Ether. This is formed by digesting one part of coarsely powdered Cantharides in two parts of sulphuric Ether, for three days, and expressing. The Ether is charged with Cantharidine, with a green oil, and with a yellow, wax-like matter. When applied to the skin with a camel's-hair brush, the Cantharidal Ether produces abundant blisters, in one or two hours in children, and in three or four hours in adults.

Cantharidal Taffetas and Paper. A double layer of aqueous solution of isinglass is spread on silk, or paper; when this is quite dry, the following is applied. Cantharidal Ether, sulphuric ether, of each four parts; turpentine, colophony, of each one part. A brush, dipped in this, is passed over the prepared material twice, with a short interval between the applications, and always in the same direction. After twenty-four hours, a third layer is applied; and, at the end of a similar period, a fourth. After some days, a layer of isinglass is applied. At the time of application, a wet rag is passed over it to remove the gelatine.

Cantharidal Ointment. This is prepared with equal parts of Cantharidal Ether and of lard. It acts intensely on children, after being rubbed in two or three times, and being applied for two hours.

Cantharidal Collodion. M. Oettinger prepares this by mixing equal parts of Cantharidal Ether and collodion.[1] [*Bulletin Général de Therapeutique*, 30 Sept. 1850.]

PROTECTION OF PILLS OF IODIDE OF IRON FROM THE AIR.

M. Blancard, in a memoir lately submitted to the Academy of Medicine in Paris, describes a process for the preservation of Pills of Iodine of Iron, so as to prevent the iron from becoming peroxidized.

This process consists in covering the pills with a sort of varnish, made with an ethereal solution of balsam of Tolu, deprived of benzoic acid by digestion in water. The rationale of the process is founded on the volatility of ether, and on the insolubility in it of the substance which it is desired to protect.

The pills, thus prepared, are of a dark iron-grey, shining, and have no disagreeable smell, or taste. When held in the mouth for some minutes, they give no evidence of the presence of a salt of iron. No iodine is disengaged. The commission, appointed by the Academy to report on the process, kept several hundreds in a bottle; the silver at the bottom of the

[1] We gave an abstract of M. Hisch's account of this preparation, at p. 962 of the London Journal of Medicine for October, 1849.

stopper, which acted as a permanent test, had not changed colour at the end of several months. The pills contain a small excess of iron.

The commission reported favourably on M. Blancard's process; and it was resolved that his memoir should be published entire in the *Bulletin de l'Académie.*

M. Bouchardat suggested, that the pills might be rendered difficult of solution in the stomach. This might, however, be an advantage when it was desired that a medicine should reach more distant parts of the alimentary canal without being modified. [Abridged from *Gaz. Méd. de Paris*, Aug. 17, 1850.]

PSYCHOLOGY.

CASE OF LUNACY: BRIEVE OF FATUITY AND FURIOSITY: A SCOTCH TRIAL.

An important Lunacy case was tried in the Sheriff's Court at Dumfries, in the first week of October, by the direction of Her Majesty's Court of Chancery, for inquiring into the mental condition of Mr. Pulteney William Mein, lately residing in Glencartholm, parish of Canonbie, and now an inmate of the Crichton Asylum.

From the evidence adduced, it appeared that Mr. Mein was originally of good parts, was highly educated, and had made considerable progress in the fine arts, but had shown for some time symptoms of unsoundness of mind. The origin of this was fixed as being in July 1849, although the mental disease had probably made encroachments before that time, and then became more marked.

Dr. W. A. F. Browne, physician and medical superintendent of the Crichton Royal Institution, deposed, that Mr. P. W. Mein had been admitted as an inmate on the 11th of June last. He considered him labouring under incoherence or imbecility of mind, on the following grounds: his aspect was vacant, stupid, and inexpressive; his conversation rambling, and on frivolous subjects; and his conduct frivolous, and characteristic of imbecility of mind. His conduct and conversation were characteristic of persons labouring under the first stage of dementia. Mr. Mein's memory was also much impaired; he did not recollect the names of persons with whom he had conversed half an hour before. He had extravagant ideas of his horses and dogs, and of every thing belonging to him. He also laboured under various delusions, as of having seen the devil, and of being able to make a coat; his articulation was also indistinct. He had materially improved since his admission, but still laboured under mental imbecility. Dr. Browne believed him quite incompetent to manage the ordinary affairs of life. His imbecility was continuous, not intermittent; and, though occasionally better, and occasionally worse, even at the best he laboured under delusions. The indistinctness of articulation, and the idea that everything belonging to him was the best, were symptomatic of the first stage of general paralysis of the insane. Dr. Browne could not determine how long Mr. Mein's mental faculties had been impaired; but it was probable, that he had for months, and it might be for years, laboured under melancholia, before he was affected with the mental imbecility deposed to. He had no hope of the patient's ultimate recovery, as, although there had been a partial improvement, yet Dr. Browne was not aware of a case of recovery in general paralysis of the insane.

Corroborative evidence was given by Drs. M'Culloch, Baker, and G. Mein, and other witnesses. The jury gave a verdict to the following effect:—"Find unanimously that the said Pulteney William Mein is at present fatuous and insane, and that he is not fit to be trusted regarding the management of his own affairs, or the affairs of another, and that he has been in that state since the 31st of July, 1849, at least; also, that Pulteney Mein, father of P. W. Mein, is provident of his own estate, and capable of managing the estate of another; also, that the brieve of furiosity, stating that the said P. W. Mein is *incompos mentis, prodigus, et furiosus*, is not proven." [Abridged from *Dumfries and Galloway Standard and Advertiser*, October 9, 1850.]

REPORTS OF SOCIETIES.

MEDICAL SOCIETY OF LONDON.

October 12, 1850.

J. Risdon Bennett, M.D., President, in the Chair.

The first meeting of this Society, since its amalgamation with the Westminster Medical Society, was held on Saturday, October 12, at the new rooms in George Street, Hanover Square. The meeting-room was crowded to excess, although many left without being able to obtain admission. The number actually present was 181, of whom 160 were Fellows, and 21 were visitors.

Dr. J. R. Bennett's Introductory Address. After expressing a hope that the exertions of the members would be continued, the President referred to the manner in which the Society had been developed—not by demolishing old institutions to rebuild them on new and untried foundations, but by interweaving the old with the new, as the changes produced by time and social progress seemed to demand. He then spoke of the utility of such an institution, not only to the profession but to the public at large, in fostering brotherly feeling, in promoting the mutual improvement of the cultivation of medical science, and in testing the truth of new doctrines and practices. The true interpretation and right application of facts might be said to be more needed than the facts themselves. Every fact in medicine required to be examined in various lights and points of view, before it could be safely made available. In concluding, he expressed a hope that the proceedings of the Society would be characterized by no spirit of detraction or petty jealousy; and that the discussions would be conducted in such a way as to conduce to the elucidation of truth, and their own improvement, and consequently the advancement of their profession, and the welfare of mankind.

Lettsomian Lecturers. The President stated that two Lettsomian Lecturers had been appointed: G. J. Guthrie, Esq., F.R.S., on Surgery, and Dr. G. Owen Rees on Medicine. The subject of the first surgical lecture would be "The means adopted by Nature for stopping Hæmorrhage from Large Arteries"; and Dr. Rees would lecture on some "Pathological Indications afforded by the Urine".

Two cases of Extra-Capsular Fracture of the Neck of the Femur were exhibited by Mr. Coulson. Both patients were aged: one was a man, aged 77, the other a woman, aged 76. In both cases there was double fracture—a fracture through the neck, extending down the shaft of the bone, and a second through the inter-trochanteric space. This agreed with the statement of Mr. Smith, in his work on *Fractures in the Vicinity of Joints*, that in upwards of a hundred cases of extra-capsular fracture of the neck of the femur, which he examined, he found, without a single exception, a second fracture traversing some portion of the inter-trochanteric space.

Angina Membranacea and its Treatment. By J. R. Bennett, M.D. The author remarked, that the form of Pharyngeal Inflammation, described by Bretonneau as Diphtheritis, was comparatively little known in this country. It had usually appeared as an epidemic rather than a sporadic affection; and had probably hence varied in its aspects. Hence it had been described by some as croup, and more frequently as angina maligna: and it was evident, that diseases primarily of the pharynx, had been described under these or analogous terms by our countrymen. The investigations of Bretonneau had demonstrated that the epidemic angina, or diphtherite, was, except very rarely, unattended by sloughing, or even ulceration. The comparative infrequency of the disease in this country, might, to a certain extent, account for the want

of any precise information regarding it as a British disease. To supply this deficiency, Dr. Bennett related some cases which had come under his observation during the present year, and offered some remarks on their pathology and treatment.

The disease was epidemic; all the cases mentioned, as well as others, having occurred at the same period of the year. With regard to contagion, Dr. Bennett would not decide: some of the patients were in families where there were other children, who were not separated, and some of whom took the disease. With one exception, all the children seemed in good health when attacked; in all, the disease was adynamic, and the throat affection had become serious before there was much difficulty of breathing or of swallowing, or much external swelling. There was no preceding catarrh. Stomatitis prevailed at the same time; and Dr. Bennett was disposed to concur with the French pathologists in assigning a close relationship, if not an absolute identity, between the affections. The alleged existence of ulceration in stomatitis was not an indication of pathological distinction. Fibrinous exudation occurred in both diseases; and in stomatitis, ulceration was often more apparent than real. It must, however, be admitted, that, while ulceration rarely attended the disease when confined to the fauces and soft palate, it was more or less present when stomatitis occurred. In the general and constitutional symptoms, and probably in the treatment, there was the closest resemblance. In the treatment, he deprecated mercurial agents, and recommended the local application of nitrate of silver, and the internal use of the chlorate of potash, with a tonic regimen. In conclusion, Dr. Bennett said that he looked on the disease as the result of a specific epidemic influence, operating on the system through the blood, characterized by an adynamic type, and calling for special treatment. However much the general symptoms might be modified by the occurrence of laryngeal complications, the secondary croup which then set in was a distinct affection from the common sporadic croup of this country. Local treatment, whether in the simple or complicated forms, was of the utmost importance; and the more common form of stomatitis was essentially the same affection as that which attacked the pharynx.

Dr. Webster referred to the practice of Bretonneau in severe cases, of opening the trachea, and applying the solid caustic, through the wound, to the interior of the larynx. He, as well as Drs. G. Webster, T. Thompson, Crisp, Murphy, Chowne, and Glück, and Mr. Hird, agreed with Dr. Bennett in his views regarding the treatment of the disease.

October 19, 1850.

J. Risdon Bennett, M.D., President, in the Chair.

Valvular Disease of the Heart. By Dr. Semple. The author related the history of three cases of Disease of the Heart, in old persons. In one, no signs of Disease of the Heart had been indicated during life; in the other two, Dr. Semple was acquainted with the existence of Valvular Disease some time before death. The patients had not manifested any, or very few, cardiac symptoms. In all, extensive and serious cardiac lesions were discovered, consisting of ossification of the aortic valves, rigidity of the mitral valves, and a dilated, ossified, and rigid condition of the large arteries. The author concluded that these diseases were not so rapidly and invariably fatal as they are generally supposed to be. [Dr. Semple's paper is published at length, as an original article, at p. 1019 of our present number.]

Summary of Discussion. Mr. Nunn drew a distinction between those cases of Valvular Disease, in which the deposit was on the surface, and those in which it was between the layers of the membranes.

Dr. Crisp observed, that the influence of the lesion on life would depend much on the age of the patient; and he thought that many of the diseases accompanying old age were even salutary, in diminishing the power of the heart in proportion to the failing powers of the system.

Dr. Golding Bird thought that the cases described by Dr. Semple might be merely instances of the changes incident to advanced age, and hence could scarcely be called abnormal. The regurgitant disease of the mitral valve might be regarded as a "safety-valve" in the obstructive aortic disease.

Dr. Sibson observed, that the treatment in heart-disease should be directed to remove the obstruction of the capillaries.

Mr. Dendy believed, that, with quietude, disease of the heart might go on for a long period without interfering with life.

Mr. Canton had found incipient bony deposit in the lower portion of the aortic valves common in elderly persons. The sinuses of Valsalva were enlarged in these cases, and aided the safety-valve function of the regurgitant mitral valves by admitting more blood.

Mr. Barlow believed that, in diseased heart, life might be prolonged by quiet and care; and that the result would depend much on the condition of the muscular fibre of the heart.

Mr. Streeter believed that there was a power of adaptation in growth, by which children with disease of the mitral valve might do well, under proper care. Hope should be sustained, to avoid accelerating the fatal termination.

October 26, 1850.

J. Risdon Bennett, President, M.D., in the Chair.

On Certain Affections of the Nervous System Simulating Chorea. By G. Pilcher, Esq. Case i. In August 1847, Mr. Pilcher saw a young man, aged 20, in Berkshire, born of healthy parents, and living in a healthy district, who was affected with slight erratic movements of the upper limbs and face. There was also apparently extreme dyspnœa; the breathing was stertorous, and inspiration appeared to require the most laborious exertion of the muscles; expiration was less laborious. This had lasted for several months without interruption, except during sleep. Walking was very difficult, though the patient could keep himself erect with very little assistance. He was treated in various institutions, and had now in a great measure recovered, the following being his condition on October 20, 1850. The bowels, urine, and appetite, were all well; sleep good; pulse rather quick; face flushed; he blushed easily, and considered himself very nervous. No cause could be assigned for the affection.

Case ii. Mr. J. M., a respectable tradesman of Chelmsford, in 1837, had a severe attack of bilious fever; and in the next year, had occasional very unpleasant feelings in his head when sitting in a confined posture. Two years after this, the feeling had become more intense; he could not sit at ease without putting his hand to his head, though without being able to assign a reason. After this, when he was sitting in a confined posture, the head would "give a sudden snatch" to the left side: and this was always prevented when he was able to keep his hand applied to his head. In 1841, the affection had become much more severe; but frequently did not occur when the patient most feared it. Various remedies, as leeches, aperients, iron, nitrate of silver, electricity, etc., had been tried, but with at most only temporary success; and the disease still continued unabated up to the present time. It was mitigated in severity by mild tonics, and occasional aperients; and increased by nervous excitement, powerful purgatives, and depletion. There was an elevation of the right shoulder, with fulness over the right scapula, probably arising from the excessive action of the muscles of that side, especially the trapezius. The trapezius and sterno-mastoid muscles of the left side appeared partially paralysed. The patient had felt no pain in the head or neck.

Two analogous cases, in females, furnished to Mr. Pilcher by Dr. Lavies, were also read. The patients had recovered under tonic treatment.

Remarks. Mr. Pilcher believed that ordinary Chorea was an affection of the excito-motor system, and mostly produced by excentric irritation. But

in the cases now related, no excentric cause could be assigned: the disease seemed essentially functional. He compared the choreic affection, to a certain extent, with the hysterical affection of joints, described by Sir B. Brodie; the alliance appearing to exist in the disorders being similar in character, commencing in the brain, but affecting different parts of the nervous system, the sensory nerves being affected in one series of cases, and those of volition in another. That they were brain, or mental affections, seemed proved by their occurrence in persons of weak mind, or whose intellects, naturally powerful, had been over-worked; and by the success obtained by renovating the mind, either through the medium of the body, or by directing it to more healthy occupations. No tenderness of the spine had been observed by Mr. Pilcher in the first two cases, nor could any mental cause be assigned.

Summary of Discussion. Mr. Hird thought that Chorea might have various causes. In children, derangement of the alimentary viscera was the most common cause; other cases required tonics. He believed that sham operations were useful in some cases.

Dr. Theophilus Thompson believed, that these cases were distinct from Chorea, inasmuch as in the latter there was an existing, though imperfect, subserviency to the will, power not being impaired. He related the case of a boy, in whom the least motion brought on extreme dyspnœa. The boy had fallen into the water, and narrowly escaped drowning. There was tenderness along the sides of the lower cervical and upper dorsal vertebræ; there might be disease of the spinal chord, as had been found in a case mentioned by Ollivier. He had seen much benefit, in some anomalous nervous affections, from the use of cod-liver oil.

Mr. Hunt believed that cases might arise from excentric causes, but that centric lesions might afterwards be induced. He related a case, which had improved under the use of cod-liver oil, and also of arsenic, given for psoriasis.

Dr. Forbes Winslow had seen cold affusions to the spine very useful in cases of true Chorea; hence he considered this disease to have a centric origin.

Dr. R. Chambers recommended chloroform, after all other means had been employed.

Mr. Dendy considered that in these cases there was unequal concentration of nervous power. The primary cause was probably in the cerebro-spinal axis.

Dr. Crisp believed that there was a local affection of the nerves, consisting in a want of balance of nervous power.

Mr. Pilcher believed his cases to have had a centric origin. He could scarcely believe the affection seated in the spine, but thought it rather a disease of volition; and in this view he was confirmed by the influence exercised by the mind in some cases.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

November 21, 1849.

James Syme, Esq., President, in the Chair.

Case of Hernia, strangulated within the Abdomen, and remedied by Operation. By James Syme, Esq. Mr. Syme, upon the 13th of October last, was asked by Mr. Sidey and Dr. Newbigging, to see a man about fifty years of age, a butler, stout, and rather corpulent. For eleven years he had been troubled by an inguinal hernia of the right side, and had worn a truss until the last six weeks, during which he had not observed any swelling, although the bandage had not been used. At twelve o'clock on the preceding night, he had suddenly been attacked with intense abdominal pain, with quick pulse, cold perspiration, and vomiting. A tumour, about the size of a hen's egg, was felt by Mr. Sidey in the right iliac region, without any external enlargement or thickening of the parietes. Leeches were applied, and several injections administered during the night, with some

appliation; but the symptoms continued until about two o'clock in the afternoon—fourteen hours from the commencement of the attack. All that could be perceived on examination, was a slight induration or resistance, opposite the internal ring, over a space not much larger than the point of a finger. In these circumstances, Mr. Sidey's detection of a tumour in the first instance, afforded sufficient ground for surgical interference. Having divided the coverings of the cord, Mr. Syme brought into view a dark coloured mass, at the internal ring, and readily drew out a hernial sac, about the size of a hen's egg, which was found to contain a portion of the small intestine. Searching for the stricture, he encountered a difficulty from the sac yielding to the slightest pressure, and returning, with its contents, into the abdomen. He, therefore, seized it with a pair of forceps, until he succeeded in passing the edge of his nail beyond the stricture, and, guiding the bistoury upon it, effected the dilatation necessary for accomplishing reduction of the strangulated part. The patient recovered completely.

Case of Intestinal Concretions. By Mr. Sharp, of Cullen. [Communicated by Dr. Taylor.] The patient, a boy of six years of age, son of a crofter, was seized with pains in the bowels, on the 5th July, and passed a concretion of irregular shape, and measuring four and a half inches in circumference. On the following day, his mother gave him a dose of castor oil, and in the afternoon some obstruction in the rectum was experienced, which Mr. Sharp found to proceed from the impaction of other two concretions above the sphincter ani. One of these was with some difficulty broken up and extracted. The other was drawn out entire by means of the curved handle of an iron table-spoon. It was an irregular mass, six inches in circumference, and two and a half inches thick. A second dose of castor oil caused the expulsion of a third concretion. The concretions were found to consist of fine fibres, interlaced in every possible direction, firmly compressed, and in some places resembling silicious matter. The fibres doubtless consisted of *mill-dust*, the substance derived from the tissue between the cortex and kernel of the oat. He had, for some time, been complaining of occasional pains in the side,—and was obviously weaker and less robust than other children of his age.

Mr. Goodsir thought, that the formation of intestinal concretions was, in certain individuals, favoured by the form of the colon. When the gut was large, and furnished, like that of the horse, with complicated sacculi, *stasis* of its contents might occur, and concretions be formed round a nucleus.

December 5, 1849.

James Syme, Esq., President, in the Chair.

Injury of the Pelvis during Pregnancy. By Dr. Andrews. The patient, a woman aged 30, was admitted into the Royal Infirmary on Sept. 4, 1849, with a large swelling of the right labium, and a large tumour on the left side of the abdomen, having a doubtful resemblance to an uterus at the sixth month; there was also a mass, resembling the fundus uteri, felt on the left side, on examination *per vaginam*. She believed herself pregnant. She died on the 17th October. After death, the uterus was found to be displaced to the left side, and to contain a male fœtus of about the sixth month: the umbilical cord was presenting in the vagina. There was also an irregular lobulated mass in the pelvic cavity; in removing the pelvic viscera, this gave way, and coagula escaped, with a considerable quantity of dark, reddish-brown, grumous fluid. The mass extended to the lower margin of the kidneys, and was adherent in front to the abdominal walls for about three inches above the pubes. It occupied the entire pelvic cavity, displacing the bladder upwards and forwards. It was mostly behind the peritoneum, except on the left side, and behind the uterus. It presented, on section, large masses of dark coagula, enclosed in imperfect cysts, together with dark grumous fluid. In all direc-

tions, it broke down easily under the finger. It appeared to have arisen from a violent blow which the woman had received on her hip, from the violent slamming of a door.

Aneurism of the Superior Mesenteric Artery opening into the Duodenum twenty-two months before Death. By Dr. W. T. Gairdner. On January 4, 1848, the patient, a woman aged 26, was admitted into the Royal Infirmary of Edinburgh, suffering from vomiting of blood. She was dismissed apparently cured in a month ; and died suddenly on November 28, 1849. On examination, a coagulum of blood, weighing two and a half pounds, was found in the peritoneal cavity, and was traced to a ragged lacerated opening in the angle between the lower part of the duodenum and the head of the pancreas. The coats of the duodenum were very thin in the immediate vicinity of this opening ; and there was at this point a very small ecchymosed spot, slightly elevated, and perforated in the centre by a minute opening. The opening of the superior mesenteric artery was a little irregular in form ; and, on passing a probe through it, a considerable dilatation was discovered in the line of the vessel, occupying the whole first portion of its trunk, and corresponding in situation with the tumour above described. By a little manipulation, a probe was pushed downwards, through the ragged opening in the peritoneum. The sac was composed of a thick and strong fibrous cyst, slightly oval in form, and not larger than a hen's egg, somewhat flattened antero-posteriorly, and with its long diameter in the axis of the artery. This cyst had evidently ruptured at its lowest point, and the blood had made its way through the cellular tissue between the coats of the duodenum, breaking up the muscular coat into two layers, and finally perforating the serous coat by a ragged opening. The sac contained a number of irregular and half-decolorised coagula.

December 19, 1849.

James Syme, Esq., President, in the Chair.

Tubercle of the Uterus. Dr. J. Y. Simpson produced a specimen, taken from a patient who had been, for some time before death, under the care of Dr. Skae, in Morningside Asylum. A deposit of tubercle lined the inner surface of the Uterus and of the Fallopian tubes ; the ovaries were free. The woman was about forty-five years of age, and, during her insanity, had manifested symptoms of sexual excitement.

Non-Malignant Recurrent Tumours. Mr. Syme called the attention of the Society to a kind of Tumour, which he had frequently met with. When cut into, it exhibited a yellow-grey appearance, somewhat resembling adipose tumour ; but it had a firmer feel, and seemed to contain some fibrous tissue. These tumours were apt to grow again after removal, and, although certainly not cancerous in the first instance, were apt ultimately to degenerate, fungate, and even cause death. When one was removed, several new ones sometimes sprang up in the same situation. They were more common on the trunk of the body than on the extremities.

January 2, 1850.

Dr. Robert Hamilton in the Chair.

Dr. J. Hughes Bennett read a paper on the Treatment of Phthisis Pulmonalis, with illustrative cases. [This essay has been published as an original article in the *Monthly Journal of Medical Science* for March and May 1850, pp. 323 and 401]

February 6, 1850.

Dr. Hughes Bennett, V.P., in the Chair.

Voltaic Battery for Medical Use. Dr. Wright exhibited two new forms of the Voltaic Battery, for medical purposes. It was with the view of testing the therapeutic effects which might result from the passage of a large

volume of electricity, in a high state of tension, through the human body, that Dr. Wright had constructed the galvanic arrangements now exhibited. The most powerful of these consisted of a number of small glass bottles, charged with a solution of bichromate of potash, acidulated with sulphuric acid, into which were lowered, by means of a simple apparatus, arcs of zinc, tipped at one extremity with platinum. The other variety consisted of small ink-glasses, containing, in a similar solution, carbon (ordinary cinders were used), and pieces of zinc attached to platinum, by means of threads of gutta percha. The physiological effects of these arrangements were stated to be as follow:—1st, on completing the circuit, a shock of great energy; followed, 2dly, by a sensation of warmth in the hands and wrists, when the conductors were grasped; 3dly, while contact was maintained, the current continued to pass, but the subject of experiment was unconscious of its flow; 4thly, on breaking contact, there was a second shock, followed, 5thly, by a repetition of the calorific sensation.

Case of Pneumo-thorax. By W. Robertson, M.D. C. L., twenty years of age, a sempstress, was admitted into the Royal Infirmary, on the 16th January. She had for six months suffered from cough and pain at the chest. There was extreme prostration of strength, languor, and inability to sustain attention when questions were put, but no delirium. The respirations were short and hurried, causing pain in the left side of the chest. The patient complained much of want of breath, and of a frequent painful cough without expectoration. The action of the heart was exceedingly rapid, but regular. No pulsation could be felt at the wrist. The face was livid, and the lips swollen. The patient refused food, but her thirst was very urgent. Her position in bed was on her left side, and she could not, without assistance, change this posture. She had not slept for several days and nights. The *physical signs* were:—1. Distinct contraction of the left side of the chest, with almost total immobility during the acts of respiration. 2. Percussion sound normal over the whole right side, and over the upper third of the left; highly tympanitic, even upon the slightest tap, over the middle third of left side from the mamma nearly to the spine; dull from about the sixth left rib downwards. 3. Respiratory murmur puerile on the right side, and mixed with sonorous and sibilant râles; faintly audible in the upper fourth of the left side; in middle third, intensely bronchial, and accompanied both during inspiration and expiration with amphoric buzzing and metallic tinkling, the cough, the voice, and sonorous râles, in the same region, all partaking of the metallic character. No respiratory sound below the seventh left rib. The position and sounds of the heart seemed normal. The patient died within fourteen hours after her admission into the hospital.

Sectio Cadaveris. The heart appeared healthy. The right lung was rather emphysematous, and its outer and lower border presented a patch of recently effused lymph. Its bronchi contained some frothy mucus. The left lung adhered very firmly by its upper third to the parietes of the chest, and below to the diaphragm. The upper lobe was contracted, but still contained air, and seemed unaltered in texture. The lower lobe was much contracted, carnified, and void of air. A large cavity had been formed between the thickened surfaces of the pleura, in the left mammary and lateral regions; it contained a small quantity of turbid fluid, and a large quantity of air, which escaped with some violence when the cavity was opened into. At the part of the carnified lung corresponding with the top of this cavity, there was a patch of greenish lymph (?), about the size and shape of a half-crown, strongly resembling a slough, but exhaling no putrescent odour. When the parts were removed from the chest, and immersed in water, and when air was forcibly thrown into the left bronchus with an injecting syringe, it escaped in small bubbles from a minute aperture between the upper edge of the supposed slough and the substance of the lung. It seemed, however, to require some little effort in pressing on the piston in order to effect this rupture,

and when the parts were afterwards roughly handled, its dimensions considerably increased.

The nature of the case was made sufficiently obvious by the dissection. A sacculated empyema had found vent, through an ulcerated opening, into the bronchi. The contracted state of the left lung, and of the whole left side of the chest, showed that either this communication must have been formed a considerable time before the patient's death, or that the absorption of the effusion must have been far advanced before the perforation of the lung took place. The immediate cause of death seems to have been bronchitis of the other lung.

In his remarks on the case, Dr. Robertson supported the view of Skoda, advanced ten years ago, that, for the production of the metallic and amphoric sounds within the chest, all that is essential is a large cavity, full of air, with parietes capable of reflecting sound, not necessarily communicating with the cavity of a bronchial tube, or containing a single particle of fluid.

February 20, 1850.

Dr. Hughes Bennett, V.P., in the Chair.

Cavity in the Lung. Dr. Spittal exhibited the left lung of a woman who had been found dead, in the apex of which was a cavity of the size of a walnut, not communicating with the bronchi. It was surrounded by small hard and grey masses, resembling tubercle in the chronic state. He believed it to be an example of the spontaneous cure of tubercular disease of the lungs.

Tumour of Supra-Renal Capsule. By Mr. Craig. (Communicated by Dr. W. T. Gairdner.) The patient had had a severe bruise on the loins when thirty-four years old. Twenty-six years after, in February 1846, he passed some bloody urine, with much pain, but apparently recovered in a few days. In April 1849, he began to suffer from neuralgic pain of the right hip and leg; no urinary symptoms were observed. In July, the course of the left sciatic nerve was the seat of pain, which was increased by pressure over the left kidney. He had flatulent distension, capricious appetite, and restless nights. Towards the end of the month, a hard moveable tumour was felt in the right hypochondrium. The urine contained large crystals of oxalate of lime, uric acid crystals, and amorphous matter, Emaciation rapidly progressed; and the patient died in January 1850.

Description of the Tumour. It was situated behind the descending colon, occupying the whole of the left hypochondrium, displacing the spleen towards the centre of the cavity. It adhered firmly to the lower dorsal and to the lumbar vertebræ, and to the lower ribs near their articulations. Large portions of bone were laid bare: and there were extensive exfoliations of the vertebræ. The tumour was attached to the upper part of the kidney, and was of a tolerably firm consistence, and yellowish grey colour, tinged very deeply at the upper part with blood. It contained cells, fibres, and a large quantity of granular matter; but none of these elements were in any way characteristic. In the kidney, two or three rounded masses of morbid matter, similar to the tumour, lay between the infundibula, among the cellular and fatty tissue exterior to the pelvis. Dr. Gairdner was disposed to think the tumour cancerous—a view which he considered supported by the presence of nodules in the lymphatic system of the kidney.

Hæmorrhagic Membrane within the Arachnoid. Dr. W. T. Gairdner detailed the appearances found in the case of a melancholic patient in the Edinburgh Asylum. The arachnoid, both cerebral and lining the dura mater, was covered with a thin fibrinous membrane, mostly of a yellowish white, or very pale rust colour, and involving here and there small portions of coloured fibrin, resembling clots of blood. Its microscopic appearance was that of decolorised fibrine, with some indefinite nuclei, and some granular matter.

There was no distinct appearance of vessels, or of regularly organised filamentous tissue.

March 6, 1850.

Dr. Begbie, V.P., in the Chair.

Inguinal Aneurism. Professor Miller related a case of Inguinal Aneurism, in which the patient committed suicide by perforating the tumour with a pocket corkscrew. [The case is published as an original article in the *Monthly Journal of Medical Science* for April 1850.]

Hæmorrhage from a Uterine Polypus. Dr. Patrick Brown detailed a case, in which a Uterine Polypus had given rise to alarming hæmorrhage. The Polypus was removed, and proper means employed to prevent hæmorrhage, and recover the patient from her prostration. She ultimately recovered, though presenting a most ghastly appearance for years.

Peculiar Disease of the Nasal Fossa. The patient was a gentleman above fifty years of age, of healthy constitution, who, in the course of a feverish cold, had a very copious fetid discharge from the right nostril, with much pain in the right superior maxillary region. This soon left him at the time; but hung about him, in a subdued form, for years, being always increased by any inflammatory cold. After the acute symptoms had subsided, he had ordinarily a constant sense of partial obstruction of the right nostril; excess of discharge from it, increased by bending the head forward; fetor, but not constant, nor frequent, and always accompanied by the sensation of the discharge of some fluid into the nostril; dull pain in the right superior maxillary region, not constant, but seldom absent more than a day. The secretion of the right nostril contained pus-globules. The disease had ceased, after an attack of catarrh, seven years and a half from the first invasion of the disorder. His brother, and probably his mother, had laboured under a similar affection.

Inflammatory Eruptions on the Mucous Membrane of the Cervix Uteri. Professor Simpson had observed Eruptions at the Cervix Uteri and top of the vagina, referable to the vesicular, pustular, tubercular, papular, and erythematous orders of Wilan and Bateman. He had thus noticed uterine and vaginal herpes, acne, lichen, prurigo, eczema, and aphthæ.

March 20, 1850.

Dr. John Gairdner in the Chair.

Cicatrices in the Lungs. Dr. W. T. Gairdner produced a number of specimens and drawings, illustrative of the effects of tubercular softening, ulceration, pulmonary apoplexy, and gangrene in the lungs. When cure followed any of these lesions, the appearances found after death were so nearly identical, that, from simple inspection of the parts, it was often impossible to draw any just conclusion as to the nature of the disease under which the subject had originally laboured. Dr. Gairdner expressed his belief, that some specimens, generally regarded as illustrative of bronchial dilatation, were, in fact, examples of cavities resulting from gangrene or ulceration of the lungs.

Poisoning by Arsenic. Dr. Douglas Maclagan produced three stomachs, in which arsenic had been detected. Although several months old, and not kept in any preservative fluid, they were still of firm consistence, and tolerably fresh.

April 3, 1850.

James Syme, Esq., President, in the Chair.

Erythema Nodosum. Dr. Begbie read a communication on Erythema Nodosum, and its connexion with the rheumatic diathesis. [This paper was published as an original article in the *Monthly Journal of Medical Science*, for June 1850; and a copious abstract was given in the London Journal of Medicine, for September 1850.]

Anæmia and Goitre. The President informed the society that there was at present, in his female ward in the surgical hospital, a very curious example of the complication of Anæmia with bronchocele, and prominent eyeball. The patient, a girl from Shetland, had been exceedingly exhausted by frequent menorrhagia and diarrhœa, as well as by depletion effected by medical means. Although now convalescent, she still presented the following symptoms, which, it appeared, had existed for many months:—pale, sickly appearance; considerable swelling at the root of the neck, evidently depending upon a uniform enlargement of the thyroid gland; the extraordinary prominence of eyeball; palpitation; and a humming sound in the neighbourhood of the great vessels of the neck.

April 17, 1850.

James Syme, Esq., President, in the Chair.

Fatty Tumours. The President exhibited a very large Fatty Tumour, recently removed from the neck of a man, who was still under his care in the infirmary. The tumour had been of slow growth, and not only caused inconvenience from its size and situation, but was also the seat of painful sensations; thus differing from the descriptions of Fatty Tumours usually given in books. The Tumour, although very large, had been attached by a narrow base, and its attachments, as usual, were subcutaneous. Hence there had been no difficulty in effecting its removal. But in another case, on which he had occasion to operate lately, a Fatty Tumour, of seven pounds in weight, situated on the back, was covered by the trapezius and latissimus dorsi muscles, and attached beneath the scapula, between the ribs, and to the long muscles of the back. In this case, of course, careful dissection was required in order to remove the whole mass. Both cases were doing well.

May 1, 1850.

Sir William Newbigging in the Chair.

Cretinism in Switzerland. Dr. Coldstream read a communication on the present state of Cretinism in Switzerland, and on the progress recently made in its treatment on the Abendberg, by Dr. Guggenbühl. He gave a detailed account of the origin, nature, and success of Dr. Guggenbühl's labours. His theory was, that the deplorable state of mental degradation denominated "Cretinism" could be best prevented by removing children, who manifested any liability to this condition, from the valleys where they were born, and by placing them in such an institution as that on the Abendberg, where they enjoyed all the advantages of pure mountain air, cleanliness, regular exercise, proper nourishment, and suitable mental training. By improving the physical condition of such children, the tendency to Cretinism was often overcome.

Dr. Guggenbuehl stated that he had now had ten years experience of the efficiency of the system which Dr. Coldstream had described. Last autumn, he had an opportunity of visiting in their homes a number of children, who had been inmates of his institution on the Abendberg. The success of his treatment, in a considerable proportion of these cases, had been most encouraging. For some months past, he had been travelling on the continent and in England, informing himself as to the state of Cretinism in the different localities which he visited. In Germany, institutions similar to his own had been for some time in existence, and report spoke favourably of their efficiency. He had seen well-marked cases of Cretinism in Yorkshire, Lancashire, Somersetshire, at Chizzleburgh, etc.

In some localities, dogs had been observed to become affected with goître: and cattle, brought to certain valleys, as those of the lesser Rheinthal, did not thrive, but degenerated and became weak. In a great part of Switzerland, the ordinary food of the peasant consisted of maize, which, in the form of "polenta", was consumed at all his meals—three or four times a day.

The pellagra of Tessino and Lombardy was believed to be attributable to the excessive use of "polenta." Of late years, efforts had been made to improve the diet of the peasant class, and turnips, carrots, etc., were now very generally used. Although inclined to attribute a pernicious influence to insufficient or improper nourishment, he could not regard it as essential to the production of Cretinism. The gradual degeneration and extinction of the old *haute noblesse* of Switzerland could not have been due to this cause, but probably to their frequent intermarriages, and to the climate of the valleys in which they lived. In the valleys of Switzerland, the population must be renewed by the infusion of new blood, from time to time, or degeneration of the race would be soon observed.

May 15, 1850.

James Syme, Esq., President, in the Chair.

Cases in Midwifery. Dr. Charles Bell read an account of two cases in midwifery requiring manual and instrumental interference. In the first, it was found necessary to pass the hand into the uterus, in order to effect the removal of the placenta. For several days after delivery, the case appeared to go on favourably. On the evening of the seventh day, the patient was suddenly seized with trismus. She continued in this state for upwards of six hours, when the spasms ceased, and did not return. On the tenth day, she had loss of speech, and hemiplegia of the whole right side of the body, but not of the face. Six weeks after her confinement, the patient was able to go into the country. She could now walk and speak nearly as well as before her illness, the only remaining trace of her complaints being an apparent difficulty in finding words to express her ideas.

The second case was one of twins. The head of the first child, a remarkably small female one, presented in the third position, and, the labour-pains being ineffectual, was finally extracted by the forceps. The child at birth showed but faint signs of life. By the use of the warm-bath, artificial inspiration, and stimuli, respiration was, in about half an hour, fully established. The uterine contractions were not renewed for two hours, and were at first lingering and ineffectual. What appeared to be the second bag of membranes was therefore ruptured; but the fluid which came away proved to be blood, which, it was afterwards ascertained, had been contained in a cavity between the two sets of membranes. The second set having been ruptured, a loop of umbilical cord descended, and was followed immediately by the head of the child. Every effort was made to protect the cord from pressure by pushing it upwards during the intervals of the pains; it ceased, however, to pulsate a few minutes before the delivery of the head; and the child, a remarkably large one, was still-born.

June 5, 1850.

James Syme, Esq., President, in the Chair.

Case of Cæsarean Section. By George Harley, Esq., and Dr. Nimmo. Professor Simpson read a case of Cæsarean Section, recently performed by Mr. Harley in the Edinburgh Maternity Hospital. The mother died from effusion into the air passages, consequent upon disease of the heart. The Cæsarean operation was had recourse to by Mr. Harley, a few minutes after her death, and the child was now doing well.

Dr. Simpson read another case of Cæsarean Section, performed upon the living mother, by Dr. Nimmo of Dundee. In this case there was extreme deformity of the pelvis. The mother died a few days after the operation. The child was saved. The pelvis, a fine example of malacosteon, was exhibited to the Society.

Treatment of Affections of the Larynx. Dr. John Scott read a communication on the treatment of certain affections of the Larynx, by the local application of the nitrate of silver in solution, by means of a sponge.

June 19, 1850.

James Syme, Esq., President, in the Chair.

Case of Laryngo-tracheitis terminating favourably after Tracheotomy. Dr. James Gillespie read an account of a case in which he had recently performed Tracheotomy successfully. [It is published at p. 25 of the *Monthly Journal of Medical Science*, for July 1850.]

Pathological States of the Lung connected with Bronchitis. Dr. W. T. Gairdner read a paper on this subject. [This communication, in an extended form, is being published in the numbers of the *Monthly Journal of Medical Science*.]

Evulsion of Tendons. The President read the following case, recently communicated to him by Mr. Gerard, surgeon at Troup, near Banff:—John Laird, a middle-aged labourer, while turning a grindstone with his left-hand, on which he wore a thick worsted glove, or "mitten," suddenly felt his thumb tightly fixed around the iron handle. He immediately attempted to stay the velocity of the machine, and, to his astonishment, discovered the injury. The second phalanx of his left thumb was very neatly separated at the joint, and had attached to it the tendon of the flexor longus,—the muscular fibres which had given way being traceable at the point of separation. From the time of the injury to the healing of the stump (which was effected by the warm-water dressing alone) he never complained of the slightest uneasiness in the fore-arm; nor did pressure along the course which the tendon had occupied, produce any feeling of tenderness.

Urinary and Salivary Calculi. The President exhibited two curious specimens of Urinary and Salivary Calculi. The urinary concretion had been sent to him by Dr. Paul, of Elgin. It was remarkable for the beautiful arrangement of the concentric layers of which it was composed.

The Salivary Calculus, which was of unusual size, had been sent by Dr. John Traill, of Arbroath, who likewise had furnished the following account of the case:—"A stout healthy man, aged 35, by trade a blacksmith, applied to me about ten days ago for a tumour at the angle of the lower jaw. On passing the finger into the mouth, its situation was felt to be under the root of the tongue, and within the ramus of the jaw. The man had been sensible of its existence for upwards of ten years, during which time it had gradually increased in size. In general, it caused but little inconvenience; but, on several occasions, had become enlarged and painful. These attacks had always been relieved by leeching and other treatment. On careful examination, I thought I detected a rough point; and, on making an incision, the nature of the disease became at once evident. Although I made a very free opening, I found much difficulty in removing the Calculus, and was finally obliged to break it up with strong forceps. A good deal of it was lost, and when entire the stone must have weighed about three drachms, and measured about an inch and a half in length. A small flat stone lay in a smooth cavity on one side, perhaps at the orifice of the duct. The Calculus seemed to occupy the situation of the body of the sub-maxillary gland, altogether posterior to the duct of Wharton."

Atrophied Pancreas. Dr. W. T. Gairdner exhibited a specimen of remarkably Atrophied Pancreas, from the body of a man who had died of diabetes. The duct was of the usual length, but no glandular tissue remained, except a piece of the size of a small hazel-nut. Bouchardat considered that diabetes was essentially a vitiation of the pancreatic secretion. This view might be too exclusive; but there was now little doubt that diabetes was generally connected with derangement of the duodenal digestion, of which this case might be considered an illustration.

SURGICAL SOCIETY OF IRELAND.

January 12, 1850.

Thomas Rumley, Esq., in the Chair.

Cod-liver Oil: Pulmonary Congestion caused by it. Dr. Benson had found, in almost every patient under his care, who had died of phthisis while using Cod-liver Oil, that the lungs were congested and consolidated, not only in the vicinity of the tubercles, but nearly throughout the entire organs. He thought, also, that he had frequently observed symptoms of congestion during life in those who used the oil. In many cases, the rational symptoms improved, especially as shewn by increase in weight, more rapidly than the physical signs. Several cases were given in illustration of his remarks.

Summary of Discussion. Dr. Bagot had observed similar results, and thought congestion more likely to occur when the patients were confined in hospital.

Dr. Spear had observed some cases in the Hospital for Consumption at Brompton, under Drs. Williams and Walshe, in which pneumonia of the upper lobes of the lungs could be traced to the use of Cod-liver Oil. He agreed with Dr. Bagot as to the probability of hospital confinement being a predisposing cause.

Tumours of the Eye and Orbit. Dr. Jacob exhibited the following preparations. 1. A black, flattened, spongy tumour, about two inches in diameter, which grew from the conjunctiva, in front of the eye. He could not determine whether it were malignant. It was removed by the knife, and the divided parts healed kindly; the remaining structures of the eye appeared healthy. 2. A black tumour, removed from the eyelid. This he did not consider malignant, any more than warts or similar tumours which were obstinate in growth, and could only be removed by the knife, or by caustic. 3. A gigantic wart, which grew from the lower lid of the eye of an aged man. Dr. Jacob had at first thought it to be carcinomatous; but a careful examination of its appearance, and the non-appearance of the disease elsewhere, led him to form a different opinion, and to consider it as a cuticular or epidermic growth. He exhited a drawing of a true malignant tumour, which illustrated the difference between the cases.

January 26, 1850.

Andrew Ellis, Esq., in the Chair.

Popliteal Aneurism treated by Compression. Mr. John Madden related the case of a corporal, 32 years of age, who had Popliteal Aneurism of the right-leg. Dr. Carte's instrument was applied to the femoral artery, below the origin of the profunda, and Messrs. Read's to the vessel as it passes over the ramus of the pubis; the pressure of the instruments being alternated. The patient died on the twelfth day after the application of the pressure. On *post-mortem* examination, the sac was found to contain fibrine in concentric layers to the thickness of three-fourths of an inch; the centre was filled with coagulated blood. The femoral artery was pervious, except until within one and a half inch of the Aneurism, where the coats were thickened, and there was a pedicle of fibrine. There was a small Aneurism, of the size of a nutmeg, on the arch of the aorta, opposite the origin of the left subclavian artery; and also one of the gastro-duodenalis artery, the hæmorrhage from which had been diffused into the psoas muscle of the right side.

The following conclusions were drawn by Mr. Madden:—1st. That the patient died from the bursting of the abdominal aneurism; but whether

accelerated or not by the attempted cure of the popliteal one, by no means appears. 2nd. That no treatment could have saved the patient ultimately from death by the cause stated. 3rd. That the treatment of Popliteal Aneurism in this case, by pressure in the groin, or three inches below it, did not morbidly affect the part of the artery pressed on, which remained pervious, and exhibited no change of structure whatever. 4th. The healthy and unaffected condition of the artery at the point of pressure, refuted the statement of those pathologists, who state that pressure injures the vessel in case it should be subsequently necessary to operate on it. 5th. That the aneurism in the ham was in process of cure by the gradual deposition of layers of fibrine proceeding from the surface to centre of the sac. 6th. That the inch and half of vessel, immediately above the aneurism, was rendered impervious by a pedicle, or cone of fibrine.

Summary of Discussion. Mr. Tufnell and Dr. Macdonnell thought the case favourable to the employment of compression; and the latter gentleman considered that it removed, as far as a single case could do, the objections that the artery sustained injury at the seat of compression, and that it was rendered unfit for the subsequent application of a ligature.

Dr. Banon suggested caution in the application of compression, when an internal aneurism was known to exist. If employed at all, it should be gradual. In a case, cured by compression in four days, which he had related, the artery was found pulsating to within two or three inches of the aneurismal sac, immediately after the solidification of the aneurism.

Dr. Hargrave approved of Mr. Madden's treatment. No evidence of internal aneurism had been detected; and he doubted whether this could have been done, though it was just possible that the aortic aneurism might have been discovered.

Dr. Madden had been unable to detect the slightest stethoscopic indications of internal aneurism.

The President was of opinion, that when an internal and a Popliteal Aneurism co-existed, it would be better to let the patient alone, unless the aneurism in the ham were on the point of bursting. He would probably have pursued the same treatment as Mr. Madden in his case; yet the subject of treatment, under such circumstances, was worthy of the most serious consideration.

February 9, 1850.

Dr. Jacob in the Chair.

Complications of Fever in Dublin. Dr. H. Kennedy related two cases. 1. A woman, aged 30, was admitted into hospital in a dying state; cold, nearly pulseless, semi-comatose, and suffering from urgent dyspnœa: she died four hours after admission. On *post-mortem* examination, pneumonia of the right lung was discovered; it had commenced at the upper lobe, which was in a state of grey hepatisation; the middle lobe was red, while the lower lobe and the left lung were free. This was a very fatal form of pneumonia, probably on account of the rapidity of its course. 2. A woman, aged 40, died of a relapse; the breathing becoming very laboured only towards the last. Physical signs of effusion into the chest were detected on the third day: and, after death, two points of effusion were found in the left pleura, which presented all the marks of recent pleurisy. The lung was compressed; and contained six or seven small abscesses situated close to the pleura. The centre of the lower lobe of the lung was spongy, apparently proceeding to suppuration. The veins were filled with a firm deposit, resembling plaster of Paris. Dr. Kennedy considered the inflammation in this case as allied to what is now called diffused inflammation. The author then made some observations on the latency of symptoms of chest-diseases; shewing that, although the external symptoms may be present, the stethoscope often fails to discover any physical signs till the lapse of twenty-four, forty-eight, or even sixty hours.

HYDROCEPHALUS. DR. BATTERSBY related the case of Chronic Hydrocephalus with Scrofulous Deposit in the Brain, which was given at p. 790 of this *Journal* for August.

FEBRUARY 23, 1850.

ANDREW ELLIS, ESQ. IN THE CHAIR.

STRANGULATED HERNIA SIMULATING HYDROCELE. DR. MACDONNELL related a case of Scrotal Hernia, which resembled Hydrocele in being translucent when viewed by the aid of a candle. This was the first time he had observed such a case; but several had occurred to Sir P. Crampton. The tumour was reduced while the patient was in bed, after having been in a warm bath.

DR. STAPLETON related a case, in which Hernia and Hydrocele co-existed in a boy, in whom the former was evidently kept up by the latter, as by a truss.

RETENTION OF URINE: IMMENSE ACCUMULATION. DR. BENSON related a case of Retention of Urine from Paralysis of the Bladder, communicated to him by Mr. B. Lane, of Articlave, Coleraine. It occurred after labour; and, after three days, six quarts of urine were drawn off by the catheter.

ON THE COD-LIVER OIL OF COMMERCE, AND THE BENEFICIAL EFFECTS OF THE CHEAPER FISH OILS. DR. BAGOT believed that much train-oil was sold as "Oleum Jecoris Aselli"; and that the effects were similar to those produced by Cod-Liver Oil. He related a case, in which the patient gained weight under its use. He felt quite certain, that other fish oils were equally useful in the treatment of phthisis; and if this proved to be true, the discovery would be invaluable to those in poor circumstances. Sperm and whale oils could not be substituted for Cod-Liver Oil, both from their smell and taste. Neither did they afford the violet colour with sulphuric acid. Whether those oils, which are procured from the mammalia, have the same fattening powers which the fish oils possess, had not been yet ascertained.

SUMMARY OF DISCUSSION. DR. JACOB believed that a liver oil was got from the liver of the basking shark, and sold in the shops. He thought it not at all unlikely, that it would form a pretty good substitute for the genuine Cod Oil. It was well known, that oil was largely extracted from the intestines of herrings by the persons employed in curing them. The oils which came from Newfoundland were not all derived from the Gadus Morrhua, but were procured from many other gadidæ, amongst which the hake and the ling were, in all probability, included, and also probably the haddock, which was a gadus; at all events, there was some reason to believe that it was not absolutely essential for medicinal purposes to procure the oil from any particular species of the cod.

DR. H. KENNEDY observed that the remarks which had just fallen from Dr. Jacob were fully borne out in the work of De Jongh. This writer mentioned several fishes from which oil, identical in properties with that procured from the liver of the common cod, might be obtained; and not long since, the *Medical and Surgical Journal* contained an account, similar to that in Dr. Bagot's paper, of a number of cases in which different fish oils were found to act fully as well as the genuine Cod-Liver Oil.

DR. STAPLETON was of opinion, that whenever pure Cod-Liver Oil could be had, they ought to use it. The liver of the cod had been found peculiarly efficacious in the treatment of rheumatic affections amongst the Norwegian fishermen. In Norway it was not used as oil alone, but was taken in the liver itself. The latter was extracted from the fish, was put into the stomach, which was removed from the cod for the purpose, and, some salt and pepper being added, the stomach was filled up with water, and tied at one end. The whole was then boiled, and the liver thus prepared, being used as an article of diet, was found highly beneficial in the treatment of rheumatism. But there was only one period of the season, at which the liver of the cod

yielded the oil in a state of purity; namely, just in the beginning of the season, when the liver was of a light cream colour. As the season drew towards its close, the liver gradually acquired a reddish hue; and when such was the case, scarcely any oil could be obtained. In the beginning of the season it was obtained by "cold expression"; but towards the close, it could only be procured by boiling the livers, in which case, the product was exceedingly thick, had a most disagreeable odour, and would not sit easily upon the stomach.

Dr. Jacob thought the quality of the oil at different periods of the season was probably more or less connected with the generative functions of the fish. If they wanted to obtain the oil pure and comparatively free from a disagreeable odour, it must be procured by pressure; for the oil was not diffused throughout the structure of the liver, but confined within cells. If they endeavoured, by chemical agency, or a moderate temperature, to extract the oil, their efforts could not be attended with much success, because it was confined in the fat cells, and these could only be ruptured by compression. Having learned the exact season of the year when the oil is contained, in purity and abundance, in the liver of the cod, the question arose: whether their best course would not be to give the liver itself to the patient to be eaten, after the custom of the Norwegian fishermen? The value of the oil might depend very much upon the nature of the food upon which the fishes lived; for some fish probably subsisted upon a kind of food that could not furnish it with the elements of oil; and even if it did, the oil might not be of the right description.

March 9, 1850.

Andrew Ellis, Esq., in the Chair.

Organic Electric Action of the Spleen. Sir James Murray read a paper, in which he expounded his views on this subject. The following were some of his deductions. 1. Series of electric currents emanate *from the Spleen to the stomach* during digestion. 2. The activity of these currents varies, according to the degree of splenic distension by the blood through the vessels of the Spleen. 3. The currents of electricity are intense, in direct proportion to the blood's heat, to the pressure exerted on the Spleen during inspiration, and to the impulse and friction of the circulation in the large splenic arterial branches. 4. In a minor degree, similar phenomena ensue, even out of the animal; when a recent Spleen is insulated, and then injected with warm water, but still more so, with hot liquors, containing such saline ingredients as prevail in the blood. 5. A Spleen thus treated, determines a positive current towards its gastric surface, when tested delicately by gold and silver wires. 6. Contraction of erectile tissue ensues when the extremities of a gold and silver wire touch at one point the nerve, and at another the erectile tissue of the Spleen. 7. Contraction, to some extent, seems to be produced when two cups filled with water are united by a metallic arc, one end of a Spleen being immersed in one of the cups, and the opposite extremity in the other cup. But more experience is required on this point. 8. Discs, or slices of spleen, placed upon each other, were, in most instances, better voltaic piles than similar batteries constructed from equal weight of brain, liver, kidney, pancreas, or even of muscular flesh. 9. Slices of Spleen were better conductors than equal sections of any of the above materials, particularly when moistened by warm saline fluids, or even by tepid distilled water. 10. The intensity of galvanic currents along the vasa brevia, from the Spleen to the stomach, continues through the gastric coats in the recently-swallowed ingesta, and the gastric juice seems thereby to derive and exert some galvanic influence upon the pulpy aliment. 11. The stomach and its contents are to be considered as *passive receivers or conductors* of galvanic influence, but the Spleen is endowed with active powers of generating or creating voltaic evolutions, under favourable degrees of repletion of its vessels, tension of its erectile tissue, and of auxiliary thermo-electric principles.

March 23, 1850.

Dr. Jacob in the Chair.

Case of Complete Mortification of both Feet after Exposure to Cold, with Remarks. By O'B. Bellingham, M.D. Case. D. M, a labourer, aged about 30, was admitted into St. Vincent's Hospital, February 23, 1850, labouring under Gangrene of both feet. He had worked at his employment as a labourer up to Christmas week. He was much exposed to wet, but had a sufficiency of food, which consisted of bread and stirabout. On the 3rd of January he was in his usual health, and went to bed quite well. In about two hours, he began to suffer from pain and heat, referred particularly to the instep of both feet, and he had no sleep that night. In the morning, both feet and legs, as high as the calves, were swollen and of a purple colour; they felt hot and sore; he could not put on his shoes, nor stand; sensation, however, was perfect, and continued to be so for two days. The swelling, which extended at first to the calves of the legs, diminished subsequently; and in two days the feet had become of a black colour, and had lost all sensibility.

The following was his condition on admission. The patient was a poor emaciated creature, the hands and chest presenting a copious eruption of scabies. Both knees were flexed, the patient could not extend them, and the ham-string tendons were very tense. The feet were perfectly black, hard, shrivelled, and dry, except about the ankles; there the parts were moist, and gave out the usual offensive smell of gangrene; the separation had been as complete through the tendo-Achillis and the other tendons of the leg, as in the surrounding soft parts. About two inches above the ankles, the tibia and fibula of both legs were perfectly bare to an extent of between two and three inches, and almost exactly at the same part in each. The bones, where exposed, were white, dry, and destitute of periosteum. At the points above where the gangrenous had separated from the living parts, granulations were abundant. The patient lay upon his back, with the legs drawn up, and the gangrened feet resting upon the bed. His appetite was very good, but there was a tendency to diarrhœa; the tongue was dry; he slept badly, but was not kept awake by pain; he complained only of soreness and heat in the lower part of the legs; the pulse was 90, rather feeble.

March 1st. Operation. The tibia and fibula of the right leg were sawn across at the part at which the bones were bare. There was no bleeding from the bone; the medullary canal of the tibia contained a quantity of healthy pus. *2nd.* The right limb had been easier since the bones were sawn across. On sawing across the other limb, the medullary canal of the tibia appeared to be dry; there was no pus in it. *9th.* The patient appeared to have gained flesh: his appetite was very good; the tongue was clean; there was no thirst or diarrhœa; he slept well; and the discharge from the stumps consisted of healthy pus. *21st.* The patient had no pain; he was able now to extend the limbs, which he could not do on his admission; the exposed portions of the tibia and fibula were white and dry; the discharge from the granulating surface was healthy; the patient had gained strength, ate and slept well, and was able now to sit up in bed.

Remarks. The gangrene in this case would appear to have had its origin in exposure to cold. The coldest day in Dublin last winter was the 31st of December, when the thermometer descended to 19° F., that is, thirteen degrees below the freezing point; and for two days previously, it had been as low as 22, while at the period at which the gangrene supervened in this case, viz., on the 3rd of January, the thermometer in Dublin was not below 35°, or three degrees above the freezing point, and in the warmest part of the twenty-four hours of that day it rose to 47° F. Gangrene does not so often ensue during the prevalence of severe cold as after it, if the temperature suddenly rise some degrees above the freezing point. When it does occur during severe cold, it is owing to the imprudence of the persons in exposing

the part to an elevated temperature. This has been noticed by Larrey, in his *Military Surgery*. Parts which have been frost-bitten very soon pass into gangrene if exposed suddenly to heat. The most intense degree of cold does not apparently destroy the vitality of the part at once; when a portion of an extremity has been frost-bitten, it can almost always be restored by using proper measures.

In the subsequent treatment, should the case be left to nature, or should amputation below the knees be performed? Larrey recommends the latter proceeding, if the gangrene have caused the death of the entire thickness of the limb. The efforts of nature are then insufficient, the vital organs become enfeebled by the process of exfoliation, and before this happens, the patient dies of exhaustion, or of the effects of resorption. This applies with more force to a case in which both extremities have become gangrenous. If, indeed, recovery take place by the unaided efforts of nature, it is not unlikely that the patient would suffer so much inconvenience, that after a time he would be glad to have amputation performed below the knees.

Case of Perineal Abscess, in which the Pus made its way into the Scrotum. By Mr. Rumley. A man, who was engaged as a clerk in a solicitor's office, told Mr. Rumley, the 19th of March, 1850, that he had suffered from severe pain about his fundament during the last five or six days, and that he was apprehensive he was about to have a fistula. On making an examination, Mr. Rumley found, between the tuberosity of the ischium and the ramus of the os pubis, a red, painful, and fluctuating tumour. There could be no doubt at all that matter had collected in this situation, and accordingly he advised the man to have it opened without loss of time. He declined to allow the operation to be performed then, having some pressing business. On his way home in a car, the wheel came against a brick, but the jolt he received caused him scarcely any pain, and in fact, from that moment, he could sit much easier upon the car. At half-past five on the following morning, he was visited by Mr. Rumley, who found him suffering violent pain in the scrotum. The scrotum was very much enlarged, reddened, and tender to the touch. On examining the perineum, the tumour was nearly gone, but the part still retained more or less of a doughy feel. It now occurred to him for the first time, that the matter might have found its way into the scrotum. He made an incision into the perineum, on doing which exit was given to a small quantity of a rather good description of matter. Two days after, he observed a small blue spot upon the scrotum, about the size of a fourpenny piece, and he then made an incision into the scrotum, and gave discharge to a small amount of matter. Two days later, a slough appeared on the scrotum; a large portion of the cellular substance beneath the integuments had sloughed away. During the whole progress of the case, there were none of the signs of urinary irritation present. The patient lost a portion of his scrotum of about the size of a half-crown piece. From day to day the patient became better and better; granulations started up from the tunica vaginalis, and he made a favourable recovery.

April 6, 1850.

Andrew Ellis, Esq., in the Chair.

Case of Milk in the Breasts of a Male Infant. By Dr. F. Battersby. After referring to instances cited by authors, in which milk had been found in the breasts of virgins and men, as well as of male animals, Dr. Battersby related the following case.

Case. J. K., aged three weeks, was brought to Dr. Battersby on the 3rd of last May by his nurse, who informed him that she received him from his mother eight days before. She then found the breasts swollen and hard, and with milk in them. The breasts had since become smaller, but were still of the size of large walnuts, with the soft hardness peculiar to breasts full of milk.

They were quite round and moveable, seemed tender to the touch, and were rather red on the surface. The nipples were of a size proportionate to that of the breasts. The child had some bronchitis. 7*th*. Dr. Battersby pressed some milk out of the breasts. 12*th*. He withdrew, by gentle pressure on the breasts, nearly a drachm of milk. It was precisely similar in appearance to woman's milk. Mr. Moore examined it, with the following result. It was alkaline, threw up a cream, was not rendered viscid by caustic potash, nor did it coagulate when heated. Viewed under the microscope, it was seen to consist of normal milk-globules of various sizes; on the whole, smaller than those contained in ordinary human milk, floating in a colourless fluid. It contained a very few colostric bodies, and some epithelium.

It was to be regretted, that the presence of casein was not here determined. The quantity of milk submitted to examination was so small, that many experiments could not be tried. The fact of heat producing no coagulation, and of the fluid remaining unaltered on the addition of caustic potash, proved the absence of the colostric character. The breasts subsided, and the child was healthy.

Summary of Discussion. Drs. Geoghegan and Darby had seen milk extracted from the nipples of very young male children. In one case, Dr. Geoghegan examined the supposed milk, and found it to contain the oil-globules and granular bodies observed in the colostrum, or first milk after parturition, but he did not submit the specimen to a chemical analysis. Nurse-tenders look upon the thing as by no means uncommon; and are in the habit of rubbing the swelling surrounding the nipple, to facilitate the escape of the fluid.

Dr. Butcher had, on one occasion, found a distinct mammary gland in a male child which he dissected; the mammary apparatus of this child was fully two inches in circumference.

On the Amount of Respiration heard in the Ordinary Diseases of the Chest. By Henry Kennedy, A.B., M.B. It had long been a recognized fact, that the lungs might be quite pervious, and yet the amount of respiration heard by the stethoscope might be comparatively little or none. Dr. Kennedy did not speak of idiosyncrasies, where the intensity of the respiratory murmur, even in health, presented such differences; but he alluded to disease, as, for example, cases of bronchitis. Frequently, in these, the respiration at first appeared quite natural and free; and yet a more prolonged examination showed the *râles* to exist extensively. This often occured in the adult, but more frequently in the child. In cases of fever it was very common; so much so, that it was a point for which one should be prepared; for these were cases in which it might be much more readily overlooked. The lungs being only partially filled, under such circumstances no râles might be audible, though at the very same moment they might become so, if, by any means, the respiration got stronger. In children suffering from almost any general derangement, the breathing was almost universally performed with great rapidity. It was what might be called shallow respiration: the number of inspirations making up, as it were, for the slower breathing of health. Both bronchitis and pneumonia might hence exist, and yet be overlooked; because the air did not reach the affected portion of the lung, unless a deep inspiration were made. Some cases of phthisis, too, presented examples of the same point. In the child, pneumonia might more readily be overlooked than bronchitis.

With regard to the alleged perfect disappearance of respiration, in solidification from pneumonia, Dr. Kennedy expressed his conviction that an example of absolute solidity could not be found, as the result of pneumonic inflammation. However parts of the organ might be solidified, the larger bronchial tubes, and some of the smaller ones too, still remained open. Hence, as far as the lung was concerned, there was no reason why the air might not traverse these open tubes, and so be made manifest to the ear; and no example of pneumonia had come under his notice, where all forms of respiration were

completely absent, although he was well aware that high authority had stated this to be the case when the entire lung was solidified. That the respiration under these circumstances was weak, and hard to catch, was admitted; but there was a difference between weakness of respiration and its entire absence. The patient, either from pain or weakness, might not make an exertion capable of drawing the air into the parts of the lung still permeable.

In the majority of instances, the diagnosis between pneumonia and pleuritis was comparatively easy, but the exceptional cases were sufficiently frequent to entitle them to a particular notice. Once, indeed, any signs of displacement of the surrounding viscera took place, the case was put beyond any doubt; but short of this, cases had occurred to Dr. Kennedy repeatedly, where days had passed without his being able to satisfy himself on this point. The difficulty mostly arose, from the same case presenting the symptoms both of pneumonia and of pleuritis. Effusion, to a considerable extent, in a good many cases, did not prevent the respiration from being heard. A considerable difference existed in this respect. Thus, in some, he had found it impossible to detect any sort of breathing longer than forty-eight hours after the attack commenced, except of course towards the root and upper portion of the lung; while, in other instances, the respiration continued to be distinctly audible below, at a time when the effusion was as distinctly on the increase; and that this was not due to any adhesions, was plain from the subsequent progress of the cases. The only explanation he could offer of this was, that possibly the lung had much greater powers of resistance to the pressure of fluid surrounding it than was commonly supposed; and that hence it might have the power of expanding; the whole side of course dilating with it, though at the next moment it yielded to the pressure exercised by the ribs and the surrounding fluid. As some confirmation of this view of the question, two points might be mentioned; 1. When pleuritic effusions occurred in children, the lung, as far as Dr. Kennedy saw, did not appear to yield to the pressure of the fluid, in the same degree as took place commonly in the adult. 2. In cases where passive effusions occurred, an amount of respiration was commonly heard much greater than what might be expected, from the quantity of fluid poured out.

The following were Dr. Kennedy's conclusions: 1. That in no stage or form of pneumonia was respiration entirely absent. 2. That in some cases of pleuritic effusion, respiration over the side continued to be heard, after the fluid had accumulated to such an extent as to give complete dulness on percussion from top to bottom.

Case of Wry-Neck: Division of the Sternal Origin of the Sterno-Mastoid Muscle: Cure. By O'B. Bellingham, M.D.

Case. James Fitzpatrick, aged 15, was admitted into St. Vincent's Hospital, September 22, 1849, labouring under Wry-Neck. The affection commenced when he was five years old, at which period he suffered for some time from pain in the left ear, which caused him to incline his head towards that side. Two years afterwards, the deformity was quite perceptible, and it had increased much within the last four years. The head was drawn downwards towards the left shoulder; the right shoulder was elevated; the sternal portion of the left sterno-mastoid muscle, from its origin to the mastoid process, was very tense and prominent; its edge forming a sharp ridge from the one point to the other. As the patient looked straight forward, it formed almost a right angle with the clavicle, while the right sterno-mastoid muscle formed a very acute angle. The left sterno-mastoid muscle, from its sternal origin to the mastoid process, measured three inches, while the right measured four inches and a half. The right side of the face was much better developed and fuller than the other, apparently as if the two sides of the face were those of different persons; the chin was inclined towards the sound side, the right eye, the right side of the mouth, and of the nose, were upon a plane higher than on the other side; a difference of half an inch was found upon

measurement on each side; from the angle of the mouth to the outer angle of the eye on the sound side measuring three inches, while on the diseased side it was only two inches and a half. Behind the insertion of the sterno-mastoid muscle, there was a considerable hollow upon the affected side. The right side of the cranium appeared to be larger than the left, and the right side of the thorax likewise seemed to be better developed than upon the diseased side.

October 5th. The sternal origin of the sterno-mastoid muscle, being that which was engaged in keeping up the deformity, was divided to-day by the subcutaneous section, a very narrow straight knife being used. A little collodion was put upon the incision in the skin, some adhesive plaster over it, a high and stiff stock was then put round the patient's neck, and a double headed roller round the head, and the patient was placed in bed, with the head upon a low pillow, and the ends of the roller were fastened behind his head to the legs of the bed above. After a few days, he was allowed to get up, and the only apparatus used was a high and stiff stock, higher upon the affected side than the other, which he wore night and day. The wound healed by the first intention, leaving scarcely any mark; and the patient left the hospital November 5th, the head being quite straight, but the face still preserving much of the peculiar appearance which it had before the operation.

This case served to strengthen the opinion advanced by M. Guérin, that the sternal portion of this muscle is alone engaged in keeping up the deformity in the majority of cases of Wry-Neck.

April 20, 1850.

Dr. Jacob in the Chair.

Congenital Hypertrophy of the Fingers and Toes. By Francis Battersby, M.B. After referring to a case of Hypertrophy of the Hand, exhibited to the Surgical Society by Mr. R. F. Power in 1839, and the cases described by Mr. Curling in the twenty-eighth volume of the *Medico-Chirurgical Transactions*, Dr. Battersby related the following case. W. Walsh, aged 16 months, was born with the second toe of the left foot in length and breadth far exceeding the others. It had since grown apace with the other toes, and retaining its unnatural size, gave the foot a very remarkable appearance. It was seven-eighths of an inch longer than the great toe, which was five-eighths of an inch less in circumference. It was one inch and two-eighths larger than the corresponding toe of the opposite foot. The third toe was slightly hypertrophied, and inclined outwards from the second. The soft commissure between these toes, looking at the dorsal aspect of the foot, was advanced half an inch from its natural position. The sole of the foot was occupied by a large fatty protuberance, making the circumference of the foot an inch in extent more than the right foot. The mother had no idea of anything being wrong with the child when it was born, and neither of the parents ever knew of such a malformation before. The child was a very fine one in every other respect. He walked as well as other children of his age, but his toes, owing to their size, and the large soft ball in the centre of the foot, were not then flexed, like the toes of the right foot, although the joints of the enlarged toes were naturally moveable.

Early Operation in Cases of Hare-Lip. Dr. O'B. Bellingham read the notes of several cases, in which he had operated for Hare-lip on children at an early age; after which, he made the following remarks. The attention of the profession was first called to the advantages of an early operation in cases of Hare-Lip in 1842, by the late Dr. Houston. Since that period, the operation had been performed in numerous instances in this country, and sometimes upon infants of a very tender age, as a few days, or a few weeks after birth. In only two of the cases which he detailed, the operation was

performed within a few weeks after birth; in the others the patients were not brought to him until they were some years old. When a fissure in the upper maxillary bone and palate complicated the Hare-lip, Dr. B. said, that if the infant were operated upon a few days, or a few weeks after birth, the fissure in the bone would gradually diminish, and become almost completely obliterated as the child grew up; whereas if the operation were deferred until later in life, the fissure in the bone would rather become wider. Again, the earlier the operation was performed, the more quickly would the wound unite, owing to the vascularity of the parts; hence the cicatrix would be slighter, and the mark would become almost imperceptible as the child grew up. In the very young infant, the operation was less severe, the parts which required to be excised had not the thickness or the firmness which they acquired later in life; they yielded also more readily, and bore a greater stress from the needles used in the operation, than when the child was older. Besides, the resistance offered by an infant of only a few weeks old, both during and after the operation, was much less than of one a few months old; the operation was therefore performed with greater facility; while its success became more certain, because the feeble crying of an infant at that age had a less tendency to divaricate the edges of the incision than would be the case if it were older. The only objection of any force which had been urged, was the liability of infants to convulsions at this period of life from trifling sources of irritation. Dr. Bellingham was not aware of any case recorded within the last few years where the death of the infant could be referred to this cause, although the operation had been performed in numerous instances at a very early age. If the child was very irritable after the operation, particularly if it cried much, the drag upon the needles would be increased, and the operation might fail in consequence.

Summary of Discussion. Dr. Jacob was in the habit of operating in congenital cataract before the teething period commenced, and he found that the little patients got on far better than when he used to operate at a later period, owing, he believed, to the fact, that the process of absorption went on with greater rapidity, and that children seemed to be less liable to inflammation in the former instance than in the latter.

Professor Smith brought forward five or six cases, in half of which the operation for Hare-Lip was performed when the children were less than one year old, and the remainder at a different period, and it appeared that, so far as the operation was concerned, they all did exceedingly well; but in the late operation, the patients did not become restless, so as to require the administration of anodynes.

Dr. H. Kennedy was able, from his own observation, to testify in favour of the early operation. It was more easily performed, and the danger attending it was much less, when the child was but a few days old, than it was at eight weeks. In addition, should hæmorrhage occur at the time of the operation, it would be easily controlled. His impression was, that there was no period of early childhood, from the first week to the end of the first two months of the infant's existence, at which the operation might not be performed with perfect safety.

MISCELLANEOUS INTELLIGENCE.

Financial State of the Royal College of Surgeons of England, at Midsummer 1850. From a statement (just published) of the receipts and expenditure of this Institution, during the past year, it appears that the former amounted to £11,722 : 2 : 7, and the latter to £11,031 : 18 : 2. The following are the sources of income, with the amount from each :—

Fees from Court of Examiners	£8,705	15	0
Fees on admission to the fellowship	430	10	0
Certificates of having received the diploma	5	5	0
Fees on admission to Council and Court of Examiners	105	0	0
Sale of Lists of Members, Catalogues, etc.	55	10	9
Dividends on investments in Government Securities	970	1	10
Produce of Policy of Assurance on life of Mr. Clift	1,450	0	0
Total	£11,722	2	7

The disbursements are divided under the following heads, viz. :—*College Department*, including council, court of examiners, auditors, fellowship, diploma stamps, list of members, law expenses, salaries, wages, coals, etc., £5,576 : 8 : 8. *Museum Department*, including catalogues, specimens, spirit, bottles, studentships, salaries, wages, etc., £2,122 : 5. *Library Department*, including purchase and binding of books, salary, etc., £407 : 3 : 4. *Miscellaneous*, including taxes, insurance, furniture, etc., £491 : 3 : 7. Repairs and painting, £132 : 5 : 7. *Under Deeds of Trust*, including oration, lectures, and prizes, £388 : 4 : 6. Purchase of £500, 3 per cent. consols, £464 : 7 : 6. Purchase of £1,518 : 6 : 6 reduced 3 per cents. in trust for Mrs. Owen, £1,450. Balance due to the bankers, 30th June, 1849, £65 : 15 : 4. Balance at the bankers, Midsummer-day, 1850, £624 : 9 : 1. Total £11,722. From the published statement it will be perceived, that the incidental income amounts to £10,752 : 0 : 9 ; the permanent income to £970 : 1 : 10. The incidental expenditure to £7,525 : 16 : 6 ; and the permanent expenditure to £3,506 : 1 : 8.

Medical Society of London. This institution has commenced its meetings for the session with most favourable prospects of success, if we are to judge from the large attendance of members, and from the excellence of the papers which have been already read. The energy which the officers of the amalgamated societies have lately shewn, will no doubt have a beneficial effect on those who have the control of the Royal Medical and Chirurgical Society. A little friendly rivalry often promotes the development of powers which would otherwise remain latent. We hope to see both societies go on increasing in prosperity and usefulness.

In the Medical Society, G. J. Guthrie, Esq., F.R.S., and Dr. G. Owen Rees, have been elected Lettsomian Professors ; and the following members of Sectional Committees have been appointed :

Medicine.	*Surgery.*	*Midwifery.*
Dr. Webster.	Mr. Hancock.	Dr. Murphy.
— Sibson.	— Dendy.	— Chowne.
— J. R. Bennett.	— Pilcher.	— Merriman.
— Copland.	— Erichsen.	— Smiles.
— Garrod.	— Hird.	— T. Smith.
— Lankester.	— Hilton.	— Lever.
Mr. Headland.	— Toynbee.	Mr. Greenhalgh.

The following Committees of Referees have also been appointed :

Medicine.	*Surgery.*	*Midwifery.*
Dr. Lankester.	Mr. Hancock.	Dr. Murphy.
— Sibson.	— Hird.	— T. Smith.
— Webster.	— Pilcher.	— J. H. Bennet.
— Sayer.	— Coulson.	— Tilt.
— Snow.	— Robarts.	Mr. Greenhalgh.
— Woodfall.	— Wade.	— Brown.
Mr. Streeter.		
— Headland.		

Lettsomian Professors.

G. S. Guthrie, Esq., F.R.S., will lecture on the 6th, 13th, and 27th of February, at four o'clock, on the Means adopted by Nature to Assist Hæmorrhage from the Larger Arteries.

Dr. O. Rees will lecture in May on the Pathological Indications afforded by the Urine.

Retirement of Sir James M'Grigor from the Office of Inspector-General of the Medical Department of the Army. Sir James M'Grigor, having for thirty-five years worthily discharged the duties of Inspector-General of the Medical Department of the British Army, has lately retired. An excellent account of his life, and of the services which he has rendered, in promoting the diffusion of professional knowledge among the medical officers of the army, as well as in raising the department over which he has presided to its present admirable state of organization, will be found in the *Lancet* for October 12, 1850.

Medical Faculty of Madrid. By a decree, of date August 20, 1850, the Queen of Spain has created three new special clinical professorships, viz., for Syphilis, Skin Diseases, and the Eye. The first appointments have been conferred on Drs. Salasar, Alonso, and Calvo, at salaries of 12,000 rials each, which is about £120 sterling. Future appointments are to be filled up by *concours*. This is a movement in the right direction ; but medical science is at a low ebb in Madrid,—globulism, and other forms of quackery as nonsensical and audacious, being more painfully visible in the profession than in any other capital of Europe.

Medical Journalism in Spain. From an official document, published at Madrid, it appears that the various medical periodicals of Spain, collectively, possess a circulation scarcely sufficient to enable one journal to pay its way in London. Nine works share among them 929 subscribers ! ! The following list shows how they are apportioned :

Boletin de Medicina	369
Union	160
Revista Quimico-Farmaceutica	136
Restaurador-Farmaceutico	107
Gaceta Medica	64
Echo de la Medicina	32
El Parte Medico	19

Two pseudo-medical journals, the Propagador Homœopatico, and the Boletin Hahnemanianno, have between them fifty-two subscribers.

Sanitary Proceedings at Hull. At a meeting of medical practitioners, resident in Hull, held on Saturday, the 19th inst., at the General Infirmary, it was unanimously resolved, in reply to a letter received from the mayor, on the subject of cholera,—That this meeting, although fully cognizant of

the prevalence of cholera in Hull, and deeply aware of the necessity of carefully watching its progress, is not of opinion that any necessity exists to adopt decisive measures on the subject. It would, however, suggest to the Sculcoates' Board of Guardians the desirableness of imitating the Hull Board, in requesting their medical officers to attend to all cases of emergency, without an order. According to the returns of the superintendent registrars, it appears that forty-two fatal cases have occurred, since the 1st of September, in Hull and Sculcoates conjointly.

Attempted Daring Robbery by the aid of Chloroform. Both the *Kendal Mercury* and the *Carlisle Journal* contain an account of an attempt made, in Kendal, on Sunday week last, to rob an elderly clergyman by the aid of Chloroform. The clergyman, who was temporarily visiting the town, had taken up his residence at an hotel, to which also the person charged with the nefarious act resorted, as is supposed, for its express purpose. The aged gentleman had retired to bed early on the night of the 13th inst., and being unable to lock his door, had secured himself against intruders, but inefficiently; he was subsequently awakened by the attempt of a person to render him powerless by placing a cloth over his mouth; and at the time of his rescue by those whom his cries brought to the apartment, a strong smell of Chloroform is reported to have been perceptible, and two bottles of that substance are said to have been discovered. The matter will undergo investigation at the sessions. It is not the first time than an agent of good has been converted into an instrument of evil.

Signor Sarti, late the proprietor of the Florentine anatomical and other models in wax, formerly exhibited in the metropolis, and, since then, in various other towns of England, has lately died at Boston, in the United States. He was a native of Florence, and is stated to have been an accomplished man, and married to an English lady. Signor Sarti was the first to introduce into this country the ingenious and elaborate specimens of Florentine art, showing the structure of the human frame.

Burial Clubs: The New Act of Parliament. In the new Friendly Societies' Act, there is an important provision respecting Burial Clubs. In future the money to be paid on the death of a child under ten years old must be under £3, and can only be paid to the undertaker for actual expenses occurred. No money must be paid on the death of a husband, wife, or child enrolled, except on production of a certificate from a physician, surgeon, apothecary, or coroner, according to a form annexed to the Act, that the party had not been deprived of life by any person interested in obtaining the burial money. If any officer of a Society pay the money without such a certificate, he will be liable to a penalty of £10, one-half of which will go to the informer.

Murderous Attack on a Physician. The *Union Médicale* for October 17th, quotes the following from the *Gazette de Cambrai*. Dr. Eugène Delporte was summoned one morning lately, between four and five o'clock, under the pretext of visiting a patient. While proceeding to the house, an individual, armed with a sword, rushed on him and wounded him in the head; a second stroke removed three of the fingers of his left hand, together with one ear, and a part of his cheek; a third stroke wounded his skull, and was probably only prevented by his wig from injuring his brain. His cries having alarmed the neighbours, the assassin fled, but has been since arrested. No cause is assigned for the perpetration of this act.

"Institut Uro-Chirurgical." An institution under this name has been recently opened in the immediate neighbourhood of Paris. It is a specula-

tion of M. Mercier, and its object is to afford billiards, baths, boating, and all sorts of amusements to those who may thither resort for the cure of affections of the genito-urinary organs! The rate at which Hydropathic Establishments, Lunatic Asylums, and Sanatoriums of various descriptions are multiplying both at home and abroad speaks volumes as to the present distressed state of the medical profession.

APPOINTMENTS.

Burton, Dr., appointed, by the Lord Lieutenant of Ireland, Resident Physician and Governor of Maryborough District Lunatic Asylum.

Guthrie, G. J., Esq., F.R.S., appointed Lettsomian Lecturer on Surgery to the Medical Society of London.

Hunter, Dr., elected Lecturer on Surgery in the Andersonian University, Glasgow, in the room of Dr. Lawrie, elected Professor of Surgery in the University of that city.

Rees, Dr. G. Owen, F.R.S., appointed Lettsomian Lecturer on Medicine to the Medical Society of London.

Watson, Dr. Ebenezer, elected Professor of the Institute of Medicine in the Andersonian University, Glasgow. The number of votes were, for Dr. Watson, 30; for Dr. Joseph Bell, 27.

OBITUARY.

Bates, William, Esq., Surgeon, of George Street, Blackfriars' Road, aged 58, on 14th October.

Booth, Dr. W. L., Assistant-Surgeon, United States Army, at Monterey, California, on 14th August.

Burton, Dr. Ed. W., Staff-Surgeon, Senior Resident Medical Officer at the General Military Hospital, Dublin, on 11th October.

Elliotson, Dr. Thomas, at Malta, on 1st August.

Fogo, T. M., M.D., late of the Royal Artillery, at Tiverton, Devon, on 18th Sept.

Fouquier, M. le Dr., Professor of Clinical Medicine to the Faculty, at Paris, aged 74, lately.

Gibson, Thomas, Esq., Surgeon R.N., late of Doune, Scotland, at Hobart Town, Van Diemen's Land, on 15th April.

Graham, Dr. R.N., on board the Hon. E.I.C. steamer *Phlegethon*, at Whampoa, aged 32, on 13th July.

Grubb, Dr. Robert, of Dalston, aged 55, on 30th September.

Maginnis, Dr. Isaac, of Savannah, drowned at sea, on 4th October.

M'Crea, Farquhar, M.D., late of the 6th or Enniskillen Dragoon Guards, at Sidney, N.S.W., on 20th April.

Swift, James, Esq., Surgeon R.N., at Worcester, aged 76, on 5th October.

Taylor, John, Esq., Surgeon, at 8, Abercrombie Place, Edinburgh, on 10th Sept.

Thompson, Mr., Surgeon, 69th Regiment, at Malta, lately.

BOOKS RECEIVED.

Address to a Medical Student. Oxford: 1850. Barker (Dr. T. H.) on the Diet of Infancy and Childhood. London: 1850. Cooke (Weeden) on Hydrocephalus. London: 1850. Erichsen, Introductory Lecture on the Study of Surgery. London: 1850. Galloway's Manual of Qualitative Analysis. London: 1850. Grove, Epidemics Explained and Examined. Jenner (Dr. W.) on Typhus and Typhoid Fevers. London: 1850. Monro (H.) on Insanity. London: 1850. Simon (John) Lectures on General Pathology. London: 1850. Symonds (Dr. J. A.) Introductory Address at the Bristol Institution. London and Bristol: 1850. Webb (Allan) On the Relations of Hindu, Ancient, and Modern Medicine. Calcutta: 1850. Wright (T. G.) on Cholera in the West Yorkshire Lunatic Asylum. London: 1850.

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ORIGINAL COMMUNICATIONS.

ON THE HEALTH OF LONDON DURING THE SIX MONTHS TERMINATING SEPTEMBER 28, 1850.

By JOHN WEBSTER, M.D., F.R.S.; Fellow of the Royal College of Physicians; Consulting Physician to St. George and St. James's Dispensary, etc.

[*Read before the Medical Society of London, November* 2, 1850.]

THE approval which has been expressed, in several quarters, of my previous half-yearly Reports on the Health of the Metropolis, published in the LONDON JOURNAL OF MEDICINE, induces me again to resume the subject. In doing so, I gratefully acknowledge the favourable notice which medical writers, and others, have taken of my former papers; and, as the facts then collected, and my commentaries, were considered valuable, I here follow the method formerly adopted. I also believe with practical physicians, that medical science and practice, and sanitary improvements, are greatly promoted by the accumulation of evidence, on a large scale, respecting the diseases and mortality of so immense a population as that of London. Deductions drawn from the innumerable data contained in the Registrar-General's important Reports, have become of very great value to the philanthropist and the physician, from the more accurate knowledge which they impart of the fatality of certain diseases in particular localities, and during different seasons. Few subjects, in my opinion, are more instructive than the investigation of questions connected with public health, of the causes of disease, and especially of the means best adapted for their prevention and cure. It ought to be kept constantly in view, that to point out the existence of an evil, is often not only the first but the greatest step towards its removal or alleviation.

I will now proceed to offer some remarks on the State of Health noticed amongst the metropolitan population during the six months, terminating on the 28th of September in the present year; thereby furnishing a continuation of the reports which I have already published. And it affords me much satisfaction at once to state, that the late summer and autumn have been unusually healthy, even if compared with ordinary seasons, but particularly so, when contrasted with the year immediately

preceding. Throughout the second and third quarters of the present year, that is, from the 30th of last March to the 28th of September, 22,816 persons have died in London from all causes; whereas, during the parallel period of the year 1849, not fewer than 40,117 persons died from different diseases, being a diminution of 17,301 deaths, or 43·12 per cent. in the recent, compared with the previous season. Restricting the comparison, however, to the last three months of the above period, or to the quarter terminating on the 28th of September, the difference is most remarkable; 27,109 deaths having been reported in London during the months of July, August, and September of 1849, in contradistinction to 11,578 in the parallel seasons of the current year; being a decrease in the latter of 15,531 deaths, or nearly three-fifths of the previous mortality.

Diseases which have lately exhibited a Diminished Rate of Mortality. The great difference already noticed in the amount of deaths throughout the metropolis in the two periods, was chiefly owing, as is well known, to the severity of the epidemic Cholera, so fatally prevalent last year in London; but which, fortunately, has this year been of very rare occurrence, compared with the epidemic of last season, only 96 persons having died from this disease during the entire six months referred to in the present communication, instead of 13,115 in the same period of last year. The contrast is more extraordinary, if the first two weeks of the month of September in each year be compared. In 1849, cholera proved fatal to 3,708 individuals in this short period; whereas, in the parallel two weeks of September in the current year, only twelve persons died of that malady.

Diarrhœa and Dysentery, so severe in 1849, have proved, this year, much less frequent. During the second and third quarters of last year, 2,946 persons died in London from these diseases; but throughout the similar six months of the current year, the deaths from the same causes amounted only to 1,459. Of these, almost half, or 691 fatal cases, were reported during August.

Measles have also been less fatal than in 1849. During the past six months of the current year, 410 persons died of that disease, in contradistinction to 642 during the former period. Scarlatina has this season been comparatively mild, only 550 fatal cases having been reported, instead of 883 during the parallel six months of last year. If compared, however, with the same six summer and autumn months of 1848, the difference in respect of fatality is very great. No fewer than 2,376 individuals then died of scarlatina, which continued to prevail, even more intensely, during the last three months of 1848 than previously, having carried off 1,765 persons during that short period of time; hence proving a much more destructive malady than had been known in the metropolis for many years. Since that season, scarlatina has gradually declined, as indicated by the small amount of deaths now reported. Hooping-cough, another affection often fatal to young persons and children, has likewise prevailed less frequently this year than the last; 706 deaths by that complaint having been reported from the 30th of March to the 28th of September in the present year, instead of 1,167 during the same six months of 1849.

Typhus Fever, which I have elsewhere designated a good *nosometer* of public health, has likewise been of late less prevalent than previously. There is no circumstance more indicative of the salubrity or unhealthiness of places and seasons, than the amount of typhus fever prevalent amongst the inhabitants; hence it is satisfactory to state, that in the metropolis, this disease has proved less fatal than in former seasons. During the six months embraced in the present report, 900 persons have died from typhus; whereas, during the parallel period of 1849, the deaths, by the same cause, were 1,222, being 35·47 per cent., or rather above one-third more numerous than recently. On comparing the recent period with the six summer and autumnal months of 1848, the difference is still more evident; as the deaths from typhus fever which then occurred in London, amounted to 1,764, being nearly double the number (900) reported during the last two quarters.

Phthisis has likewise been the cause of death in a smaller number of persons than during last year; 3,056 individuals having died from this in London during the last six months, instead of 3,214 in the corresponding two quarters of 1849; making a decrease of about 5 per cent.

Pneumonia and Bronchitis come also within the category of diseases which have exhibited a diminished rate of mortality. Thus, during the summer and autumn of 1849, the deaths from these two pectoral complaints amounted to 2,569; whilst in the parallel six months ending the 28th of last September, only 2,227 deaths are reported, being a diminution of 342 cases, or more than one-seventh. Convulsions are reported to have proved fatal in 839 persons, during the last six months; in contradistinction to 1,028 during the same period of the year 1849; being a diminution of 189 in the number of deaths, or 22·53 per hundred. Erysipelas is sometimes a very serious disease, especially when the patients in an hospital become attacked, as it is difficult to eradicate from the institution, and often rebellious to treatment; nevertheless, it has proved less fatal recently than in former seasons. Thus, during the six months embraced in the present report, erysipelas caused death in only 168 patients; whereas during the corresponding two quarters of 1849, the number of fatal cases, by the same disease, amounted to 213, being a decrease of 45, or 26·78 per cent. in the more recent period.

Besides these illustrations, it may be mentioned, that Diseases of the Heart and Blood-vessels produced, in the aggregate, fewer casualties than last year; the comparative numbers being 896 deaths, during the recent six months, instead of 942, in the corresponding six months of the year 1849.

Diseases which have exhibited an increased rate of Mortality. Although the health of the metropolis has been generally satisfactory, throughout the whole of last summer and autumn, as shown by the statements just enunciated, several of the ordinary maladies have nevertheless manifested a different character.

Influenza has been rather more frequent during the last, than during the previous season; 45 deaths by this malady having been reported, instead of 25 in the corresponding two quarters of 1849.

Cancer has proved fatal to 457 persons during the last six months, instead of 397 during the second and third quarters of 1849.

Insanity has likewise been more fatal; 51 persons having died, instead of 41 in the parallel period of 1849.

Inflammation of the Liver also exhibits a slight increase of mortality; 107 deaths from hepatitis having been reported, instead of 96 in the previous period.

Ovarian dropsy, moreover, has been more fatal in the recent period; 35 females having fallen victims to that complaint, from the 30th of last March to the 28th of September; whereas, only 20 individuals are reported to have died from a similar cause during the parallel two quarters of 1849. In addition to the above important fact, it may be also instructive to mention, that of late years, this serious disease seems to have proved more deadly than formerly. Thus, during three years ending the 31st of December, 1841, the total deaths in London by ovarian dropsy were only 40; whereas, during the three years terminating the 31st of December, 1848, they amounted to 142, or more than treble the previous amount. These statements, indicating the recently augmented mortality by the disease in question, I have been induced now to mention, as they must be interesting to practical surgeons and pathologists. Does this increased fatality depend upon ovariotomy, and diagnosis by exploratory incisions, being now in vogue?

Diseases exhibiting an uniform rate of Mortality. Speaking generally, although diseases affecting the Kidneys and Urinary System have proved rather more fatal recently than in the previous season—the total deaths by the above causes being 296 in 1850, and 279 last year; still, some of the affections, in this division, have exhibited a nearly uniform mortality. For instance, 13 persons died of Stone in each half year; 67 died of Bright's disease during the last six months, and 65 in 1849. Diabetes proved mortal to 18 persons in the six months of 1850, in lieu of 20 carried off by the same malady during the parallel two quarters of the previous year. This however is a complaint which cannot be regarded as renal.

From Puerperal Diseases, during the six months just terminated, 200 fatal cases have been recorded, the number during the parallel six months of 1849 having been 210; thus showing a slight recent diminution. Seeing the number of births during the last two quarters was 36,604, it becomes an interesting inquiry to ascertain the ratio of deaths incident to females during, or immediately after, parturition. From the data at present attainable, it is only an approximation to the truth, that can be here enunciated; still, taking into calculation twin and triplet births, which are much less common than many persons may perhaps suppose, being in the proportion of about one twin birth in every 113 cases, it follows, that nearly one female dies in every 180 parturitions. When puerperal fever prevails epidemically in lying-in institutions, the mortality will be, in that case, augmented; but, looking at last year's experience, the above calculation is very nearly correct.[1]

[1] As an illustration of the small proportion of twin births, it may be interesting to mention, that in 1845, when 65,884 children were born in London, there were not more than 580 cases of twins, and only two instances of triplets. Of the twin

Considerable uniformity in the rate of mortality has been likewise noticed in other diseases. Apoplexy proved mortal to 618 individuals in the six months of 1850 ; the deaths being 612 in 1849. From Hernia 65 died in the six months of 1849, whilst the fatal cases, by the same disease, were 62 during last season. Delirium tremens was the cause of death during the past six months in 96 cases, whereas the number was 94 in the previous year. Although this dangerous disease has not varied much in respect to its mortality during the last and present year, it should be noticed that, as compared with many former periods, delirium tremens has recently greatly augmented, both in frequency and fatality, in the metropolis, as shown by the following statement. During the whole of the year 1841, 83 individuals died from this disease ; in 1844, the deaths rose to 95 ; in 1847, they amounted to 156 ; and in 1849, delirium tremens proved fatal in 164 cases ; the mortality being thus almost double of that in 1841. These are important facts, and deserve serious attention from medical men, as well as from the advocates of temperance. More human beings annually fall victims to this complaint, which is really disgraceful to the individual, if one might employ such an expression, than to syphilis, gout, insanity, and several other maladies. Such a fact is not creditable to the present age, nor to its much boasted civilization.

Mortality among Children. The large number of children who annually fall victims to disease in London, exhibits a feature in the mortuary reports of the metropolis, which ought to arrest the deepest attention. If nature's laws were more frequently followed,—were the proper feeding, and judicious clothing of young persons more in accordance with common sense, and with their tender constitutions,—and farther, if their physical education constituted a greater part of the duties of parents and attendants, in addition to their moral culture,—I feel assured that so large a proportion as 45 per cent. of the total deaths would not be met with among children. Of the 22,816 deaths recorded in London from all causes, during the last six months, 10,242 of the individuals who died had not yet passed their fifteenth year, many being even infants or young children, whilst 7,787 were in the prime of life, viz, from puberty to 60 years of age, and 4,657 were old people ; thus

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births, 183 mothers had two boys, 176 bore two girls, and 221, or two-fifths of all the patients, had each a boy and a girl. It is also curious, that a large proportion of the above 580 twins cases occurred in the out-parishes of the metropolis. Thus, 43 were reported from Lambeth ; 34 from St. Pancras ; 34 from Kensington and Chelsea ; 27 from St. Marylebone ; also 27 from Shoreditch ; 26 from Stepney ; and 22 from Islington ; whilst one of the triplet births occurred in Shoreditch, the other in the London City District. The first case was the wife of a shoemaker, who had two girls and one boy ; the other was the wife of a tailor, and had three girls. It will also be interesting to state, in reference to triplet births, that in all the other districts of England, out of 477,637 births in 1845, only seventeen instances of females who had three children at a time are recorded ; whilst not more than two examples of quadruple births were met with in the same year throughout the whole of England ; one being the wife of a cowkeeper at Croydon, who had one boy and three girls ; the other case was the wife of a draper at Haslingden, in Lancashire, who bore four boys at the same accouchement. It has been alleged (and I suspect truly), that the proportion of plural births is much greater among the Irish than the native English population.

leaving only 130 cases in which the age was not stated. These facts incontrovertibly show that more children than adults die in this great metropolis, notwithstanding the often dangerous and even insalubrious character of the occupations in which the latter are engaged, and their being further exposed to many causes of disease, to which children are rarely subjected.

Several of the complaints which usually prove fatal to children, such as scarlatina, measles, hooping cough, and convulsions, having been already mentioned, it would be superfluous again to discuss these maladies. To one cause of death, however, on which I offered some remarks in my last report,[1] I would again specially call attention. I mean "the privation of breast-milk"—the natural food of infants. From this cause, not fewer than eighty-nine infants are reported to have died in London during the last six months. And when it is remembered that, during the parallel six months of 1849, the number of deaths from the same cause, amounted to 111, it is at least somewhat consolatory, that the number has thus recently decreased. Having specially adverted to the great annual mortality amongst children, in my former report, I will only now repeat, that the subject demands serious attention, as it shews that there are sources of disease affecting this interesting class of the community, which do not produce the same lethal effects upon individuals in more advanced life; notwithstanding the many influences injurious to health to which the latter are constantly exposed.

Violent Deaths. The number of persons who every year lose their lives in London by violence or accidents, is much greater than would probably at first be imagined. During the last six months, 769 individuals are reported to have died violent deaths in the metropolis, which makes one case in nearly every thirty of the whole mortality. Of the above 769 violent deaths, 268 were produced by fractures and contusions; 155 were drowned; 89 died from burns and scalds; 51 by poison; and 37 by wounds; besides other casualties, which it would be superfluous to particularise.

In reference to the subject of violent deaths, it may be interesting, although rather a digression from the immediate subject of this paper, to allude to the marked discrepancy usually noticed amongst two classes of men, in regard to their comparative liability to accidental death; I mean soldiers and sailors, not only in London, but throughout the whole of England. As it is impossible, when discussing this point, to quote recent occurrences, the peculiar facts, met with of late years, not having yet been published, I must refer to a former period, viz. 1840; which will however answer every purpose, and also sufficiently illustrate the question.

Sailors are no doubt more numerous in London than soldiers, besides being frequently changed, by arrivals and departures: yet it is curious, that only four soldiers out of about 5,000 men, including Woolwich, lost their lives by violence throughout the entire metropolitan districts, during the year 1840: one being killed by a fall, and another by a horse, whilst the causes of the remaining two deaths were not specified. On the other hand, the number of sailors within the same category,

[1] London Journal of Medicine, June 1850, p. 543.

amounted to 64; of whom 37 lost their lives by drowning. The difference is even more remarkable if the whole of England be taken into account. Only eleven soldiers died by violent means beyond London; whereas, the deaths from violence among sailors in the same districts, amounted to 282; of whom 209 were drowned. The aggregate number throughout the whole kingdom, was thus 15 soldiers and 346 sailors; of whom 226 were drowned—not at sea, it should be remembered, but in the rivers and harbours of England and Wales. Of the eleven cases of violent death among soldiers, six occurred in the counties immediately round London, two in the eastern parts of England, two in Cheshire and Lancashire, and one in Wales; the immediate causes of death being drowning in six; injuries by horses in three; falls in two; and poisoning by opium in one. The causes of the remaining three are not specified. These statements are very singular, and demonstrate the much greater safety of a soldier's life in England, compared with that of the sailor. The facts also indicate the good conduct and discipline of the British army; and I will venture to affirm, that in no other country have 30,000 military passed an entire year with the loss of only fifteen men by violence; not one of whom died either by *lead or steel*. Viewed in every way, this statement, founded on authentic documents, is highly gratifying; and it seems so different from what most persons would expect, that it has appeared deserving of being here recorded, and especially noticed.

Mortality among the Pauper Population. Amongst the 22,816 deaths registered during the six months embraced in the present narrative, nearly one-sixth, or 3,549, took place in the prisons, hospitals, workhouses, and other public eleemosynary institutions; thus shewing that 15·61 per cent of the total mortality occurred among the pauper population. It is also instructive to state, that the majority of the above patients were men, the number being 2,099, and only 1,450 women; which is more remarkable, as the lunatic asylums, comprised in this category, contain more female than male inmates.

Prisons. The prisons of London have lately exhibited a degree of health much superior to their condition during the last century. Indeed, few places appear to be more free from disease; and this doubtless arises from the sufficient and wholesome dietary, and the discipline to which the inmates are subjected, besides the diminished influence of vice and intemperance. During the last six months, only forty-four deaths have been reported from all the prisons of the metropolis; thirty-five being men, and nine women. This constitutes a very small mortality amongst so numerous a body as the London prisoners, the number of whom, according to the most accurate accounts, recently amounted to 6,113; 5,483 being males, and only 630 females, the greatest proportion of both sexes being criminals. The chief exceptions were inmates of the Queen's Bench Prison, and the debtors of Whitecross-street, in which two places, 384 prisoners were then confined. From the above data, it appears that one death occurred in every 156¼ male prisoners, and one in every 70 females. It should be also remembered, that the inmates were often changed by the committal of new offenders, and the release of those prisoners whose period of confinement had expired;

nevertheless, I believe, so low a rate of mortality will rarely be met with amongst any other class of persons. To shew the great salubrity of the London prisons, it may be stated, that among 10,015 prisoners committed to the House of Correction at Coldbath Fields, up to a very recent date, there had only occurred six deaths; being not more than one fatal case in every 1669 inmates.

One remarkable feature ought to be here especially mentioned, in reference to the metropolitan prisons. However beneficial confinement in such places may really prove to the bodily health of the inmates, it sometimes appears to produce an opposite effect upon their mental condition; particularly in those undergoing solitary or separate punishment. This baneful influence is fully established by the fact, that from two London prisons, viz., Pentonville and Millbank, where only convicted criminals are confined, 61 prisoners were sent to Bethlehem Hospital during the last ten years, who had become insane; 47 being men, and 14 women; besides four men who came from the hulks, but had previously resided in Pentonville prison. In addition to these sixty-five individuals, several male and female prisoners have been also admitted from other gaols as lunatics into Bethlehem Hospital, although to a much smaller extent. The effect of confinement in prison upon the mental faculties, is hence very decided; and it should be remembered, that the above 65 cases of insanity sent from the metropolitan prisons, and now reported, were not persons acquitted because they were insane, but prisoners actually undergoing sentence for previous crimes and misdemeanours.

Lunatic Asylums. During the last six months, the deaths in the metropolitan asylums for the insane, whose average population is about 3,527, consisting of 1,573 male and 1,954 female lunatics, amounted to 171; 96 men and 75 women; being one death in nearly every 16 male, and only one in every 26 female lunatics, during the last half year. This seems a moderate rate of mortality, especially amongst the female lunatics, who are also the most numerous. These facts are the more interesting, as they prove the correctness of an observation which I have elsewhere made, and which was based upon extensive data, that mania, although more common among women, is in them more curable and less fatal than among men. Female maniacs, moreover, are likely to attain greater longevity than male lunatics.

Lying-in Hospitals. At lying-in hospitals, which sometimes present a very high degree of mortality, the number of deaths has been comparatively small during the last six months; only 18 fatal cases of child-birth having occurred in the four public establishments of that kind in London, most of which happened during the first quarter of that period. To the 18 deaths of mothers, must be added those of 12 children.

General Hospitals. From the eleven General Hospitals of the metropolis, there has been reported nearly one-third of the total number of deaths referred to in a previous paragraph, as forming the gross mortality amongst the pauper population. The actual number of deaths was 1,051, during the last six months. They may be thus classified, to enable readers to form their own opinions.

STATISTICAL TABLE OF DEATHS IN THE ELEVEN GENERAL HOSPITALS OF LONDON DURING SIX MONTHS TERMINATING SEPTEMBER 28, 1850.
(COMPILED BY DR. WEBSTER.)

Hospital.	Number of Beds.	Total Deaths.	Ratio of Deaths to Beds.
St. Bartholomew's	580	180	1 to 3¼
Guy's	580	164	1 to 3½
St. Thomas's	487	115	1 to 4¼
London	320	120	1 to 2⅔
St. George's	320	106	1 to 3
Middlesex	285	86	1 to 3 1-5
Westminster	175	78	1 to 2¼
Free	140	22	1 to 6⅓
King's College	120	66	1 to 1 8-10
Charing Cross	110	36	1 to 3 1-18
University College	106	78	1 to 1⅓
Totals	3223	1051	1 to 3 1-14

According to the above statement, some very useful data, both in reference to the mortality met with amongst a certain class of the community, and also to the amount of accommodation available in Public General Hospitals for their treatment during sickness, may be now brought under review. Few persons would perhaps believe, that in a population of 2,300,000, there are at present only 3,223 beds for the indigent sick in all the General Hospitals of London, exclusive of the special institutions for particular diseases, such as fever, small-pox, and consumption; but such is the fact. Many of the inmates of these *charitable* establishments are not always of the indigent classes, but persons sometimes in easy circumstances, or domestic servants from the houses of governors, and even of noblemen, and also petty shopkeepers; nay, patients sent from the country, who thereby incur expense. Hence, it appears, that the actual sick poor of London are not the exclusive participants of the benefits of these institutions. Taking the matter nevertheless as it exists, and looking only at the data contained in the table now supplied, and which has been compiled with every desire to ensure accuracy, the following inferences may be legitimately deduced: 1st. One death in every 21·75 of the total mortality throughout London, or 4·60 per cent., took place in the eleven general hospitals, during the last six months. 2nd. One patient died for nearly every three beds, speaking in the aggregate. 3rd. The highest rate of mortality generally occurred in the smallest hospitals. 4th. With one exception, the lowest comparative ratio of deaths was observed in the large or more populous institutions. 5th. The fewest deaths, in reference to the published number of beds, was reported from the Free Hospital; and 6th. The largest comparative mortality, according to the same calculation, occurred at University College Hospital.

On the other hand, when comparing one hospital with another, it is curious to observe, that the mortality was nearly the same at St. Bartholomew's and Guy's, the two largest institutions of the kind, and having each the same number of beds, viz., 580. Again, at St. George's and the London hospitals, each having 320 beds, one being situated at the west end of London, the other at the east, where an immense number of serious accidents constantly occur, and certainly very many more

than in the neighbourhood of Piccadilly, there is not much difference in the rate of mortality. This is, however, in favour of the latter hospital, although still inferior to the Middlesex, St. Bartholomew's, and Guy's, but especially to St. Thomas's Hospital, where the ratio of mortality was less than at any other similar institution, with the sole exception of the Free Hospital, as previously stated. I am fully aware that these calculations must not be taken as absolutely free from all fallacy, since the admissions of patients may be more numerous at one establishment than at another. But I think that this argument, if it has any force, would rather militate against the smaller and more modern hospitals, to which letters of recommendation from a governor, unless for accidents, are often required to ensure the reception of an in-patient; while at the two ancient Royal Hospitals of the city, and at Guy's, where the rate of mortality has been found to be lower, the facility of admission is greater, and the applications, consequently, likely to be more numerous. The subject here mooted, is both so important and instructive, that it deserves further inquiry; indeed, it is solely with that object I have now made these imperfect remarks, and based them upon the numbers contained in the average table; which, I believe, is the first ever compiled in illustration of the results obtained at the eleven general hospitals of London, viewed comparatively.[1]

Before taking leave of the London Hospitals and their recent mortality, I must remark, that few documents would prove more useful to the medical profession, than a well-arranged yet succinct general statement of all the facts and agenda noted in each separate institution, combined and classified in an uniform, systematic, but not too complex a manner. If from the country hospitals and infirmaries, as well as from the metropolitan, similar statements were annually made, the accumulated facts would materially tend to dissipate many erroneous opinions and speculative doctrines, which could not then withstand the counteracting influence of sound practical experience, supported by, and based upon, numerous facts verified by repeated observation. General hospitals ought to follow the excellent examples now set by many lunatic asylums; the authorities of which annually publish a report of their proceedings, both lay and professional, accompanied by numerous, varied, and often useful tables respecting the patients under treatment, the character of their particular maladies, the results obtained, and often highly important statistical data, besides other matters of much interest and practical value. Every hospital and infirmary throughout the country should do this; and if some master mind would take the whole facts thus supplied, and arrange them in a lucid and instructive manner, the great desideratum adverted to, would be effectually supplied. If documents of the kind described had been regularly issued by the authorities of the different London hospitals, detailing the chief *res gestæ* when the Potts, the Hunters, the Baillies, the Abernethys, and the Coopers were attached to these institutions, the facts collected by such eminent men would be invaluable to the modern practitioner. Nevertheless, were

[1] The basis upon which Dr. Webster's conclusions are founded, as to the mortality of the different hospitals, is open to some objection; but his remarks are likely to be useful, by inducing the authorities to afford better data. In the mean time, we refer to our report of the discussion at the Society where Dr. Webster's paper was read. EDITORS.

the plan carried out for the future, particularly whilst there are many distinguished physicians and surgeons on the medical staff of those establishments, great benefits would thus accrue, not only to all now in practice, or entering the profession, but to posterity. Let us take, as an illustration, hernia or fractures, about which considerable difference of opinion sometimes prevails in reference to the treatment. Could the surgeon easily refer to a large array of cases reported by the ablest practitioners of ancient and recent times, much of the present discrepancy of opinion on such a subject must give way before the weight of evidence derived from such sources. The treatment of medical diseases, likewise the value of particular remedies, the symptoms characterizing epidemics, the types of even ordinary maladies, the rate of mortality observed, and many other interesting questions, would be all greatly elucidated by the system here suggested. I therefore hope the parties, who have the power, will take the subject and plan now suggested into consideration, and by an united effort remove every difficulty which might retard its realisation. It gives me pleasure here to state that the authorities of some of the great metropolitan hospitals have recently ordered, and secured for the future, faithful records of all the cases admitted within their walls, which I hope will be published.

Edinburgh and Glasgow, however, deserve in this respect greater honour, as from their very institution they set this noble example. In the Edinburgh Infirmary, clinical reports are preserved from the first opening of the hospital; and indeed it was from the clinical teaching within the infirmary, that the Edinburgh School of Medicine arose: that school so long pre-eminent and still illustrious in Europe. The usefulness of a long series of such records is well illustrated by Dr. James A. Lawrie's paper on the "*Results of Amputations*," published in the *London Medical Gazette* for 1840, which contains an analysis of all the amputations performed in the Glasgow Infirmary from its institution in 1794 to 1839: as well as by the truly valuable and elaborate series of Essays entitled "*Contributions to the Statistics of Injuries of the Head*" published by the same accomplished surgeon, in conjunction with Dr. Alexander King, in the annual volumes of the *Edinburgh Monthly Journal* for 1843 and 1844. These Essays embrace an analysis of the nature and the treatment of all the cases of injury of the head admitted into the Glasgow Infirmary from 1794 to 1841. The pathological and statistical records of the Edinburgh Infirmary, I would just add, were placed upon a nearly perfect system by the late lamented Dr. John Reid; and the same afterwards has been successively maintained by his industrious and talented successors, Dr. T. B. Peacock, Dr. Hughes Bennett, and Dr. W. T. Gairdner. If great scientific treasures have been accumulated by the good order prevailing in two comparatively small and poor northern hospitals, what are we not entitled to demand from the richly-endowed and vast establishments of Guy, St. Thomas, and St. Bartholomew?[1]

Excess of Births over Deaths. Similar to the facts stated in my

[1] I would here mention with pleasure, that good statistical and clinical registers have been kept for several years past in the Hospitals of Nottingham and Oxford. I have also reason to believe, that the same laudable system is followed in other provincial hospitals.

former report, a considerable excess of births over deaths, amounting to 13,542, has taken place during the last six months. The increase reported in the first three months of the above period was 7,064; but in the quarter ending the 28th of last September, it was only 6,478. This arose, both from the mortality being then rather greater by 568 deaths than the preceding quarter, and also from the circumstance that more children were born during the months of April, May, and June, than in the subsequent season. This result is consistent with ordinary experience, as births are always more numerous in London during the early months, and spring of the year, than afterwards. The excess of births over deaths in the metropolitan districts, referred to in my previous report, having been 10,128 in the six months, it thus appears, that the total excess has been 23,670 throughout London during the past year. This furnishes one cause, amongst others, of the constant increase of the enormous population now resident in the British metropolis.

Atmospheric Influence. During the whole six months embraced in this report, the weather, although rather cold for the season, was seldom marked, with only a few exceptions, by great fluctuations of temperature. The greatest variation was on the 1st of June, when the thermometer indicated 78·1 as the highest degree of heat, and fell to 43·8 at night; thus making a difference of more than 34 degrees. The above was, however, a rare instance, the variations throughout the entire period being very moderate, or, to speak generally, 19 of the 26 weeks now referred to, were characterized by an unusual equality of temperature, both by day and night; whilst only 7 weeks of the same period indicated any considerable fluctuations, chiefly in the months of May and June. The temperature was never very high at any period, having only six times exceeded 80 degrees during the first three months; and on only seven days during the last quarter. The highest noticed throughout the whole period, was 87° on the 16th of July: during the night of that day, however, it fell to 60·3.

The medium pressure of the atmosphere was somewhat low, during the months of April and May, being frequently under 29½ inches, but on one occasion only, viz., the 4th of April, was it below 29 inches. During the second quarter, the barometer ranged higher than in the former period, having very seldom fallen under 29½ inches. Indeed, it was generally near, or even above, 30 inches, especially throughout the last days of August and the greater part of September. Thus, during twenty days continuously, ending the 17th of September, which, it should be remembered, included the days parallel to those which I have called the "*black week*" of 1849, the pressure of the atmosphere was always high, never being under 30 inches, and sometimes above 30·25. This makes the atmospheric pressure to range, on an average, about four-tenths of an inch higher than in the similar weeks of 1849; the wind being at the same time generally north-west or north-east, having also considerable movements, whilst the temperature was low, but not variable.

During this period likewise, the greatest difference betwixt the day and night temperature was 27, although sometimes the alternation was only 14·13, and occasionally only 8 degrees. Electricity seemed often positive; notwithstanding the weather continued dry, the sky was fre-

quently overcast. These particulars may be well contrasted with the description of the atmospheric phenomena at the same period of 1849, and given in my last year's report, when London almost resembled, as it were, a pest-house.

At that period, the atmosphere produced an oppressive and ungenial feeling upon the human frame; the sky was always hazy, and, at times, appeared like a thick mist, the air being generally very dry; scarcely any wind prevailed, and when it did, the direction was often south-west or southerly, with diverging currents, while this year it was north-west or north-east, blowing more freely, and without diverging currents. Farther, the most remarkable feature observed in September 1849, in reference to the atmosphere, was the frequent and daily very extensive fluctuations exhibited by the thermometer, the alternations being sometimes so high as 30 degrees, between the warmth of the day and night-time; whilst the lowest temperature, in the previous month of August, was 42, the highest being 82, thus giving a difference of 40 degrees. These are instructive phenomena, and may in part account for the great discrepancy noticed in the two seasons; 8,844 persons having died in London during the three weeks ending the 15th of September, 1849; whereas, during the parallel three weeks, ending the 14th of September, 1850, only 2,710 deaths are recorded; thus making a diminution of 6,134 in the short space of twenty-one days, or to less than one-third of the previous mortality, in favour of the recent season.

Besides the peculiar features just described, as characterizing the recent healthy season, it should be likewise mentioned, that the sky lately was seldom clear or cloudless, being frequently overcast; the wind was generally west or westerly, north or north-easterly, but very rarely southerly. The weather was not dry, unless in the early part of September, since frequent showers prevailed; electricity was often positive; whilst the summer and autumn of 1849, it should be always recollected, were the driest known for upwards of thirty years. The more recent season shewed, as already stated, greater equality in temperature, the movement of the wind being quicker, and from a salubrious quarter; whilst the amount of electricity seemed more apparent, and was oftener positive than in the previous year.

I am fully aware of the difficulty of making exact observations respecting the influence of atmospheric phenomena, in the production and modification of diseases, or in deducing therefrom correct conclusions; but being anxious to bring this important subject before the profession, in order to move other and more capable observers to pursue the inquiry, I have here, as in previous reports, given the result of my own limited experience. In this, as in every other scientific investigation, correct knowledge can only be obtained by repeated and numerous observations, carefully made by various individuals. As an illustration of the influence which even changes of temperature frequently exert upon the human frame, it is only necessary to observe, that a sudden fall of one or two degrees of the thermometer, especially in the night-time, will cause death in many patients, who otherwise might struggle on a little longer, were the temperature less variable. Again, every person knows the effect of the east wind in this country; the bis and mistral in the south of France; the bitter piercing tramontano of Rome; the sirocco of South Italy; the solano in Spain; besides the cold winds from Siberia;

the hot blasts from the sandy deserts of Africa; or the north-west winds that blow from the marshy Pampas of South America, and which often prove injurious to health, even in the much-lauded climate—as it is so named—of Buenos Ayres. In London, the east and north-easterly winds are dry and insalubrious; the south and south-westerly, humid and unhealthy; the north is often followed by inflammatory diseases, whereas the west and north-westerly breezes, although usually accompanied by dry and clear weather, are much more healthy and beneficial; both to mind and body, than winds blowing from any other quarter of the hemisphere.

London not Insalubrious as a Place of Residence. Many persons are in the habit of visiting Bath, Cheltenham, Brighton, Tonbridge, and other places of repute in public estimation, under the notion that London is less salubrious, as a residence, than these fashionable localities. Not intending to examine the comparative merits of the different places now named, I shall confine my present remarks to the metropolis, which appears, from the facts stated in previous pages, to have been recently by no means insalubrious. Living in London is not *per se* unhealthy; it is the manner of life followed by those who dwell in town which so often proves inimical to the health of its inhabitants. If the dictates of nature were more frequently followed, and if common sense, aided by experience, were oftener made the rule of conduct proper to be pursued by individuals, in regard to everything connected with health and hygienic measures, much less sickness would prevail; whilst the strength of our physical frame, and the condition of our intellectual faculties, would be both greatly improved. More restless spirits or novelty seekers, sometimes others as a mere pretext, go abroad in search of health, or thus endeavour to avoid the variable climate of England, which they, from sheer ignorance, call unhealthy. But there can be no doubt as to the superiority of London as a healthy place of residence, when compared with almost any metropolis in Europe, or even any large town on the continent. The superiority over other places, or the reverse, in a different point of view, is not now the question; but simply the proved salubrity of the capital of Britain as a residence. Thus, in London, the annual ratio of deaths amongst the whole community, is one in every 42 inhabitants; in Manchester, one in 26·5; in Edinburgh, one in 25·6; where, however, the deaths, in 1847, even reached the frightful proportion of one fatal case in every 20·9 of the population, being chiefly from the great fatality of typhus fever. In Liverpool, the ratio is, on an average, one death in every 23·6 of the inhabitants; whilst in Glasgow, the mortality is so high as one in 21·9 of the population, or double that of London. On the continent of Europe, the difference is equally remarkable; seeing that in Berlin, built in a sandy plain on the banks of the sluggish Spree, the annual rate of mortality is one in every 34 inhabitants; in Dresden, one in 31·27; in Palermo, one in 31; in Paris, one in 30·50; in Naples, one in 28; in Brussels, one in 26; in Rome—far famed as a refuge, but often a grave for invalids, one in 25; in Amsterdam, which is constructed on piles, and intersected by canals full of stagnant water, one in 24; and in Vienna, it is one in 22 of the entire population; which, doubtless, is owing, as at Glasgow, in many respects, to the low and damp

situation of the city, from being near the banks of a large river like the Danube; whilst there is often a burning sun during summer, alternating with storms; and in winter, frequently, cold winds that blow from the neighbouring Carpathian mountains.

Besides the several capitals just named, I may also mention Constantinople, so much lauded for its Golden Horn, splendid Bosphorus, and its magnificent surrounding country, as by no means a salubrious residence. This arises, in addition to local influences inimical to health, from the great and sudden variations of temperature, even to the extent of 30 degrees, which often prevail between mid-day and sunset; being sometimes even greater at night. Besides this powerful cause of disease, the *Kara Yell*, (or black wind,) that blows from the north or north-east, and so sweeps down from the Balkan range, or from over the Black Sea, having been previously rendered as cold as ice by passing over the Caucasus mountains, produces severe effects upon the health of the inhabitants of the Turkish metropolis, in which plague and pestilence also prevail.

In North America, where the term of human life is shorter than in Europe, and the "go-a-head" system applies to animal as well as commercial existence, the diminished duration of life is even more obvious. In New York, for example, where a person is almost roasted in summer and frozen during winter, the ratio is, on an average, one death in every 23 inhabitants; whilst severe epidemics and even yellow fever are not uncommon, when the mortality is much augmented. But, however unhealthy New York may appear, it is almost an Elysium in comparison with New Orleans, which seems the pest-house, or Sierra Leone of the United States. In this city, situated on a lower level than one of the largest rivers in the universe, the Mississippi, which is only kept from submerging the whole district by immense dykes and artificial embankments, the gross mortality in 1849 was one death in every 10·66 of the inhabitants. Subtracting, however, the 3,548 fatal cases of Cholera which occurred last year, the mortality from ordinary diseases still reached one in 16·68; but as that epidemic malady always diminishes the amount of deaths from other causes, it will be much nearer the mark to reckon the mortality of New Orleans about one in 14; or treble that of London. In fact, the former city may be almost likened to an hospital for the sick; because, where so many individuals die annually, those labouring under disease must be always very numerous; and it thus appears probable, that the entire population are swept away and replaced every fourteen or fifteen years. Such destruction of human life is unheard of throughout Europe; whilst in England, the ordinary results are very different, even in the most populous, worst drained, or filthiest locality in any part of the whole empire.

Situated on rather elevated ground, upon a gravelly foundation, with frequent declivities, London is by no means unfavourably placed in respect of salubrity, especially on the north bank of the Thames, and towards the west; the southern districts are, however, very different. Although favoured by many natural advantages, the metropolis has been, nevertheless, deteriorated in some respects as a healthy residence by various objectionable proceedings, into which I will not now again enter at any length, having alluded to the subject in former reports. Still, when it is remembered that the river Thames, otherwise so im-

portant, has become the "Cloaca Maxima" of London, and that it carries off the exuviæ of its immense population, it is marvellous that matters are not much worse. The innumerable nuisances which are so often created, prove also most injurious to the public health. Some of these might be mentioned; as, for instance, the manufactory of artificial manure close by the Spitalfields workhouse, containing 400 children and a few paupers. Here bullock's blood and night soil were recently desiccated by the dry heat of a kiln, thereby causing a most powerful stench, which produced severe typhoid fever and other diseases of an intractable form. Again, in the "Potteries" near Kensington, 3,000 pigs were kept: and the process of fat boiling was also carried on so extensively, that the atmosphere became tainted for half a mile round; whilst the hovels for the inhabitants could scarcely have been surpassed for filth and misery by any thing known in Ireland. But even in aristocratic neighbourhoods, the best means to improve the salubrity of a district are not only neglected, but schemes are occasionally proposed which would have an opposite and injurious tendency. The parks—justly called the lungs of London,—St. James's and Kensington Gardens, for example, are encumbered with trees, whilst further additions are sometimes made injudiciously, so that free ventilation is interrupted, and damp engendered in localities, where the light of the sun and the winds of heaven ought more freely and constantly to penetrate.[1] Besides neglecting such matters, it was actually intended, in the summer of 1849, to spread over the surface of Hyde Park the filthy contents of the great common sewer which passes through its centre, in order, it was said, to have more grass for the cows there grazing, the scheming projectors never thinking of the lungs of those Londoners who might come here with the intention of breathing the pure north-western breeze, but, in reality, to sniff the mephitic exhalations produced by such contemplated irrigations. Fortunately, a strong representation in the proper quarter prevented the proposed abomination, just when all the machinery was completed, so that the absurd proposal was never carried forward; although a memento still remains of the *original idea*, in the shape of a huge iron pump with a large handle, which now points towards the field of its projected, but hitherto abortive, operations.

I will now proceed to make a few observations on some circumstances, the judicious or improper application of which materially influence the health of individuals, and hence of communities. I allude to, 1. Food; 2. Clothing; 3. Habits or Customs; and 4, Bodily Exercise.

Food. Although many individuals in London may sometimes not have sufficient food for proper nourishment to support their physical frame, others exist who would enjoy often much better health, were they more careful in regard to dietary. This truth particularly applies to children and persons of sedentary habits. The quantity of animal food which many of these parties consume, is far beyond the requirements of nature; hence arise stomach complaints, visceral congestions, and, in old people, apoplexies, paralysis, with other maladies occasioned by

[1] A great improvement would be effected, if the high wall on the north side of Kensington Gardens were replaced by an iron railing, so that the wind might blow freely through the trees to dry the gravel walks and grass, the dampness of which greatly diminishes the pleasantness and salubrity of this promenade.

their full habit of body, and from their blood being too much animalised. Even when of good quality, and taken in proper quantity, food often proves prejudicial to health by improper and imperfect cooking; acting as a very common cause of dyspeptic complaints, which are so frequent in this country. All kinds of provisions, but especially animal food, are generally of much better quality in London than elsewhere; but, being often injudiciously cooked and badly prepared for digestion, they are not so beneficial as they would otherwise prove. Much attention is given in England to the rearing of animals as food for the inhabitants; and societies exist, by whom prizes are awarded to the producers of fat pigs and overgrown oxen; but no rewards are ever given, or public encouragement held out, to teach persons how to cook properly and economically. This is a great desideratum. Were more attention generally given to the manner of preparing even ordinary articles of diet (especially for young and debilitated persons), better bodily health and greater mental activity would be ensured.

The victuals and beverages best adapted for individuals, vary according to their constitutions and occupations; but it may be stated as a general rule, that the man who is much engaged with bodily labour in the open air, requires more nutriment than an intellectual person of sedentary habits.

Clothing. Many persons, but especially children and females, suffer in health from inattention to covering their bodies properly and equally. Bare necks in females, uncovered arms, legs, and throats in children, prove always most hazardous to health, and, along with other obvious causes, materially contribute to the larger amount of sickness and death which occurs amongst these two classes of persons than among adults. The partial and improper mode of clothing the susceptible physical frames of children, is sometimes attempted to be justified by the most absurd of all reasons, that their constitutions will thereby be hardened. Such a proceeding does certainly try the strength of their powers of resisting disease; but, although some may escape unscathed, many fall a sacrifice.

The system of tight lacing in females, which fashion sanctions, although reason and experience strongly condemn, likewise proves frequently detrimental to health, by impeding the free action of the lungs and heart; whilst the equally important abdominal organs,—the liver, stomach, and other viscera,—are thereby displaced, and even forced down upon the pelvis. This is not an exaggerated, but a true picture. Such distortions of the graceful forms of the fairest portion of creation, must fill every admirer of the beautiful in symmetry with distress and astonishment. If Cleomenes, the sculptor of the Venus de Medici, if Pheidias, Praxiteles, or any of the great Grecian statuaries, whose works of art have been the admiration of every succeeding age, were to revisit the earth, and frequent the fashionable European world of 1850, with its boasted civilization, they would indeed be astounded!

Unhealthy Habits and Customs. The middle and upper classes in Great Britain are decidedly much more temperate in their habits than formerly; and instances of intoxication are now very rare exceptions. But among the lower ranks, and even among the very poor, intemper-

ance is too often met with, as shewn by the number of well-frequented gin-palaces. The fiery spirit there imbibed acts as a frequent and powerful cause of disease in the physical frame, and also, too often proves destructive to the mental faculties.

But although intemperance in spirituous liquors be almost unknown in certain ranks, a vice appears to have taken its place, which I think as great an abomination, and equally destructive to health, namely, tobacco-smoking, especially amongst the younger portion of the male population. Dyspepsia, nervousness, paralysis, and madness, may be confidently enumerated as some of the evil consequences produced by the use of this narcotic and poisonous weed. Many medical practitioners in this country know well, that the health and constitution of persons are frequently injured by smoking tobacco. In North America, also, the subject has occupied the attention of several physicians, who have written against this habit, as well as against the vice of intemperance by ardent spirits. Indeed, insanity has been so often traced to the operation of tobacco, that it is now one of the recognized causes, like opium and ardent spirits, of that severe malady; and it has been prohibited in several American lunatic asylums. How men of intellect and education should ever be induced to adopt this filthy, health-destroying, and vulgar custom, so common amongst cab-men and pot-house frequenters, is to me astonishing. In this, however, as in other cases, fashion and example prove, unfortunately, too powerful against reason and experience.

Another injurious custom, which prevails chiefly among females and children in the middle and upper ranks, deserves also some notice. I allude to the greater consumption of tea at present, than formerly, especially at unseasonable hours, and when the stomach is empty; because an infusion of tea, and still more so if made with green, then acts more powerfully upon the nervous system. The practice of taking such a beverage, which acts upon the nervous and circulating systems of individuals, an hour or two before dinner, and which has recently become fashionable amongst ladies, is highly prejudicial to health, however grateful it may be to the palate at the time. Like tobacco-smoking amongst men, or opium inebriation, so common in Turkey and China, the practice of drinking tea in the manner described should never be sanctioned. At breakfast, when solid food is also taken, the effect is different, as digestion is then promoted, and any deleterious effect which tea might otherwise produce upon the nervous system is materially counteracted. Nevertheless, as the physiological action of this aromatic leaf is that of a nervous excitant and cordial, it hence produces various forms of neuralgic pains, affections of the stomach, with other disorders of the viscera, which often baffle all treatment, unless the cause now adverted to be removed.

However injurious tea may thus sometimes prove to adult persons, it becomes in a higher degree detrimental to children, and young people, from exciting their more susceptible nervous and cerebral systems. When taken habitually under such circumstances, it excites and renders irritable their physical constitution, by unduly developing the cerebral structure and its functions; hence, I consider, this beverage should be put almost in the same category with tobacco, opium, ardent

spirits, or wine, and ought never to be allowed to very young individuals, unless as a medicine.

Exercise. Many persons in London, as elsewhere, have plenty and frequently more than sufficient muscular movement that might be called exercise, in one sense of the expression; but unfortunately, being often in confined or unhealthy localities, and sometimes when employed in deleterious trades or occupations, their exertions become toil and exhausting labour. In the metropolis, although many individuals are obliged to work to procure daily bread, others pass their physical if not moral existence in indolence, which becomes doubly detrimental to health, if accompanied by luxurious living and repletion. Similar consequences also ensue where the mind is exhausted or long kept in a state of tension, and especially if the party breathe an impure, confined atmosphere. Indeed, numbers may be met with, whose general health and mental vigour would be much improved, were they to take more bodily exercise, and be oftener in the open air. Fewer dyspeptic and bodily ailments would prevail, if the above useful precept were followed.

Allusion has been already made to the public parks of London, which are denominated the lungs of the metropolis. The expression is correct, although figurative; but it is astonishing how very little practical advantage is taken of the privilege which they afford to the inhabitants of breathing their pure breezes which, especially in the morning, are so conducive to health, as the atmosphere is then untainted by dust or smoke. A walk before breakfast in any of these promenades, will at once establish the truth of this remark, and show the inactive habits of the adjacent neighbourhood, especially of the younger and female part of the population. This neglect conduces to the greater amount of sickness and impaired health noticed amongst them, contrasted with that of the male portion of the community. Undoubtedly, the human frame may have both too little, as well as too much bodily exertion. In this, as in diet, extremes should be always avoided, since to no point more than to either of the above questions is the well-known and truly philosophical axiom, "*in medio tutissimus ibis*", in a higher degree applicable. To this it may be also added, that as the physical constitution of man often wastes from the want of sufficient muscular movement, so will the nervous organization, on other occasions, become exhausted or worn out by excessive toil, as well as from too great mental excitement.

24, Brook Street, Grosvenor Square, November 1850.

ON THE EXISTING STATE OF OUR KNOWLEDGE OF VACCINATION AND REVACCINATION, AS PREVENTIVE OF SMALL-POX.

By ALEXANDER KNOX, M.D., Physician to the Dispensary, Strangford, County Down, Ireland.

(Concluded from page 1051.*)*

An argument, derived from the alleged composition of the lymph, might have been advanced, in confirmation of the identity of the Vaccine and Variolous Diseases, but it has been designedly omitted as premature, until the existence of the phenomena, said to be revealed by the microscope, shall have been confirmed by repeated and careful examination. This part of the subject would, however, be incomplete, without a passing notice of the very interesting observations contributed by Mr. E. Oke Spooner, to the July number (1850) of the *Provincial Medical and Surgical Journal*, p. 367. The purport of that gentleman's views will, however, be best explained in his own words.

"If we examine the Cow-pock and the Small-pox microscopically, as I have done very carefully in every stage, we find that the essential character consists of a number of minute cells, not exceeding the 10,000th part of an inch in diameter, being about one-fourth smaller than the globules of the blood, containing within their circumference many still more minute nuclei, and presenting beyond their circumference bud-like cells, of the same size and character as those contained in the circle. They exactly resemble in everything, except the size, the globules of the yeast plant, the *Torula cerevisiæ*."

In conclusion, the leading phenomena of the three forms of Small-pox may be thus grouped with reference to their identity.

NATURAL SMALL-POX.	INOCULATED SMALL-POX.	VACCINE SMALL-POX.
General symptoms usually severe.	Usually mild.	Almost invariably mild.
Primary fever, may be typhoid, more usually inflammatory, declining about the fifth day.	No primary fever.	No primary fever.
Eruption of papulæ on the third day, completed on the fourth; papulæ generally numerous.	Minute papulæ on the third day—generally few in number, and sometimes confined to the puncture or its locality.	Minute inflamed papula on the fourth day; the eruption, with rare exceptions, confined to the point of operation.
Papulæ vesicular on the fifth day, and containing pellucid lymph.	Vesicular, with clear lymph on the fourth day.	Vesicle on the fifth day, containing clear lymph.
Vesicles depressed in the centre.	Vesicles depressed in the centre.	Vesicle depressed in the centre.
Redness around the areola, the papulæ assuming a deeper hue, as the pustules ripen.	Pain of axilla about the sixth day; areola on the ninth or tenth day. Fever, sometimes severe, about the eighth day.	Pain of the arm, and sometimes of the axilla, about the eighth or ninth day.
Vesicles assume the form of distinct opaque pustules, either spherical or acumin-	By the tenth day, the primary pustule is full of matter.	Areola on the eighth or ninth day. Fever slight, sometimes inap-

NATURAL SMALL-POX.	INOCULATED SMALL-POX.	VACCINE SMALL-POX.
ated, about the eighth day, and contain sero-purulent matter, attaining the maximum size of a pea about the eleventh day, when secondary fever occurs.	No secondary fever.	preciable, about the eighth or ninth day. No secondary fever.
The pustules break and scab about the twelfth day, and the crusts fall off in a few days more.	The primary pustule scabs about the fourteenth day; and by the end of the third week the disease disappears.	Scabbing takes place about the twelfth or thirteenth day, and the crust falls off about the end of the third week.
Pustules leave, when severe, permanent scars.	Primary pustule, and the secondary pustules, when severe, leave permanent cicatrices.	Vesicle usually leaves a permanent striated cicatrix.

d. Evidence in favour of the protective influence of Vaccination. This is almost universally prevalent, even up to the present day. The doctrines of Jenner have been advocated, to a greater or less extent, by Baron, Thomson, Good, Gregory, Watson, Alison, and a host of other writers of the first celebrity in these kingdoms, as well as, on the continents of Europe and America, by many of the most eminent medical authorities, to whom we have not space even to allude. Amongst others, Berthollet, Percy, and Halle, have discussed the subject with great force and precision, in an article published by the French Imperial Institute. The united opinions of such men unquestionably offer the strongest presumption in favour of Jenner's discovery; but the actual extent to which protection is imparted by Cow-pock, is rather a question of fact than of opinion, and is only to be determined, to the satisfaction of the sceptical, by a rigid inquiry into the actual results, and the conclusions fairly deducible from them.

Evidence as to the actual results of Vaccination is the most satisfactory and, after all, the only conclusive method of determining the true value of Vaccination. The general testimony, in favour of the protective influence, either absolute or partial, of Vaccine Inoculation, is still, as we have seen, all but universal; for, even among the many observers who now demur to the unqualified doctrines of Jenner, Baron, and others, there are very few who do not admit, that immunity to a certain degree, and for a limited period, is imparted by the operation. The proposition, however, that it confers absolute protection on all persons ever after, is now admitted, on all hands, to be untenable; but it is the belief of a great many, that where the casual disease occurs after Small-pox, it usually displays itself in a greatly ameliorated shape, which may thus be briefly described.

Modified Small-pox. A secondary attack of Small-pox may occur after Inoculation or Vaccination, or even after a primary attack of the casual disease. The consecutive malady, in rare instances, runs through its course with unabated severity, and may even prove fatal; but, in a vast majority of cases, it exhibits itself in a very mild form. In some peculiar constitutions also, this ameliorated type of the disorder occurs primarily, although the system has not been protected by having previously passed through the disease in any form. The preliminary symptoms and primary fever of the modified disorder differ, however,

in no respect from the first stage of unmodified Small-pox, being equally severe until the appearance of the eruption, when the ameliorating influence, especially of Vaccination, at once becomes evident. The constitutional disturbance rapidly subsides, and the papulæ, usually, though not invariably, limited both in point of number and extent, are confined principally to the face and breast. The pocks, or a portion of them, may, in some cases, pursue their ordinary course; but they more usually moderate by the fifth or sixth day, and rapidly dry up, and many of them die away, without coming to maturity at all, exhibiting neither the usual central depression, nor the presence of purulent matter. Meanwhile, the attendant indisposition is very slight, the appetite perhaps unimpaired, and the patient free from that secondary fever, with all its frightful consequences, which render the unmodified disease so terrible. No permanent scar is usually left by the pocks, the site of which is, however, marked by temporary brown discolorations of the skin. We are, therefore, amply justified in stating, that if the only result of Vaccination had been to substitute this mild disease for natural Small-pox, the value of Jenner's discovery could scarcely be over-rated, even if it had failed to produce absolute protection in a single case. Small-pox in the modified form was termed by the elder writers Varicella, and this appellation, with the adjunct *variolodes*, to distinguish it from chicken-pox, was retained by Dr. George Gregory; but its application to any form of Small-pox may lead to confusion, and had better be abandoned by all who do not look on the diseases mentioned as essentially the same. This, however, is a long disputed point, not yet perhaps conclusively determined, but which must be passed by for the present.

It is obvious, that in attempting to fix the true protective value of Cow-pock according to existing information, the correctness of our conclusions must depend on the assumption, that the primary Vaccination has not only apparently, but really, produced its full effect on the system. The value of any inferences arising out of the extensive Revaccinations in the Prussian army, and elsewhere, evidently hinges on this point, and it therefore becomes a necessary preliminary to examine the various alleged tests of effective Vaccination, which may be enumerated as follow: Bryce's test; the cicatrix left by the Primary Vesicle; Variolous Inoculation, and Revaccination.

Mr. Bryce's well known test of the disease having affected the system was this: he performed a second Vaccination, at the end of the fifth or beginning of the sixth day, from the date of the first operation. The vesicle, produced by the second Vaccination, was found to be not more than one-fourth of the normal size, and the areola was equally diminished, being also accelerated in its progress, so as to arrive at maturity, and again to decline, at nearly the same period as the affection depending on the primary operation. This test was not held to be of much consequence by Jenner; and Gregory objects to it, that although it shows the constitutional influence to have been excited, it does not determine whether in a sufficient degree to secure the system, and he justly looks on it as being absolutely nugatory, as a test of the stability of vaccine protection in after-life.

By many practitioners, a perfect cicatrix left after the primary operation, has been considered as a certain test that the protective influence

has been duly imparted to the system. The proper characteristics of this cicatrix are stated to be, permanency and a diameter of about rather less than half an inch, its surface being striated, and marked with six or eight slight indentations, corresponding to the cells of which the vesicle was composed. As far, however, as the question is to be determined by the investigations of the Wirtemberg physicians, it does not appear that the state of the cicatrix can be relied on to determine whether, and how far, the system is protected, either by the primary operation, or by Revaccination. Genuine pustules may leave no mark at all, or an imperfect mark; and even a true cicatrix will only show, that Vaccination has been duly performed, but not how far the protective influence still remains in the system, if we admit what their statistics apparently show, that the protection may be diminished, or entirely lost, at varying periods from the date of the operation. In proof of this it is stated, that of 1055 cases of Small-pox, in which the marks were visible, 914 had good, and only 141 imperfect marks, and 147 of the above cases were of genuine Small-pox, although the marks were normal. And of 2718 revaccinations, one half had the cicatrices from the previous operation regular; yet in this half, Revaccination succeeded perfectly in 65 per cent.; in a modified manner in 26 per cent.; failing entirely in only 9 per cent. In further illustration of this point, we are informed, that, out of 14,384 Revaccinations amongst the military, in more than one half the marks were normal, yet of this number the process went on regularly in 31 per cent., and in a modified manner in 31 per cent, whilst in 40 per cent. no effect whatever was produced. Again, in the Prussian army, according to Lohmeyer, 42,041 soldiers were revaccinated; and of these 33,819 only had distinct, and many no marks whatever; yet the secondary operation was regular in 19,117, irregular in 8,672, and failed entirely in only 14,252 cases.[1] On the other hand, protection from the primary Vaccination may exist, where no trace of a cicatrix remains, as illustrated by 2,030 cases, in which Revaccination failed altogether in 47 per cent.; had a modified result in 19 per cent.; and succeeded perfectly in only 34 per cent. The testimony of Gregory[2] is to the same effect, severe forms of Small-pox occurring where the cicatrices were normal, and very slight forms where they were very imperfect. A better criterion, therefore, would be satisfactory proof of the previous process having been complete; but, as this can rarely be attained, we must depend chiefly on the character of the operator as a guarantee for the regularity of the primary Vaccination.

Cazenave and Schedel consider the best test to be Inoculation with variolous matter, the usual effect of which, if the previous Vaccination have been successful, is to produce a small local pustule, which dries up rapidly, and is not accompanied, for the most part, with any constitutional symptoms, although it may be followed by a slight general eruption. They admit, however, that this method is not without inconvenience. Inoculation, although a good test in itself, is objectionable, as tending to diffuse the contagion of a very terrible malady; for though the inoculated disease

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[1] Medicinische Zeitung, in Brit. and For. Med. Rev., No. xv, p. 263.
[2] Med. Chir. Trans. vol. vi, second series.

in any given case may be of the mildest form, it may convey, by infection, the most malignant type of the disease to others.

Another mode of testing the efficacy of Vaccination is by a secondary operation, a Revaccination, after the lapse of varying periods of time. The effects of this secondary operation are various, and have been minutely described by Dr. Gregory. In some cases, certainly the majority at least within five years, the puncture in the skin heals in a few days without any subsequent results, or it may produce a degree of common inflammation. In others, a greater effect is produced, and in three or four days after insertion, a small vesicle, containing transparent fluid, is produced, but it is acuminated, and dies away about the eighth day. Or the vesicle may resemble the genuine one in other particulars, but is flat, does not attain the usual size, and dries up without leaving the characteristic mark; or it may be perfect in every respect, except in the existence of the areola. These imperfect vesicles may be destitute of any concomitant marks of inflammation, or they may be affected with troublesome itching, surrounded by an areola, irregular either as to size and colour, appearing sooner than the genuine pock, about the seventh or eighth day. The glands in the axilla swell very frequently; and a marked degree of redness and engorgement of the arm, with occasional smart feverishness, may exist. These symptoms are especially common in the female sex. The principal points, therefore, indicative of a spurious disease, are anticipation of the various stages, the whole progress being too short, irregularity of the vesicle, which may be too small, or acuminated, or pustular, instead of vesicular, and absence of the regular cicatrix.

But, after all, the best and most certain test that Vaccination has imparted its full influence to the system, is the regular progress of the vesicle, with its attendant symptoms, through all its stages, which have been minutely described in a former part of this paper.

In returning to the main question, it may be premised, that the protective influence of Cow-pock has been advocated on the following grounds:—1. The power which it confers of resisting the contagion of the casual disease. 2. Of resisting the effects of Variolous Inoculation. 3. Of resisting the effects of Revaccination.

1. In proof of the first of the positions here stated, it was related by Jenner himself, that 6000 persons had been vaccinated, who entirely resisted the contagion of Small-pox, although exposed to it in almost every way for the express purpose of determining the question. The history of Vaccination in Denmark offers similar testimony; for in consequence of rigidly enforcing the practice in the first instance, Small-pox disappeared from that kingdom, but only to reappear and renew its ravages, when supineness had grown out of continued immunity. So also in Ceylon, as clearly shewn by Dr. Kennis, the extent and fatality of the malady alluded to were regulated by the degree of attention paid to Vaccination. When this was duly attended to, secondary Small-pox was both unfrequent and mild: thus of 737 cases, 550 were without satisfactory marks of Cow-pock, and of these last 198 died, or 10 in every 28; whilst of the remaining 187, with satisfactory marks, the deaths amounted only to 3, being in the proportion of 1 to 62. This evidence to shew, that the vaccinated, when exposed to the contagion of

natural Small-pox, escape the disease in a far greater proportion than those who are unprotected by the operation, might be greatly enlarged. For example; in the history of the epidemic which prevailed in Copenhagen for three years, commencing in 1828, written by Wendt, it appears that of 84 patients affected with true variola, and who had not been previously vaccinated, 24, or 1 in $3\frac{1}{2}$, died, whilst of 29 who had been vaccinated, only 4, or 1 in 7, died. The results in 1832-4 were still more strongly illustrative of the same position. Of 147 persons, not vaccinated, or on whom the operation had only been performed eight days previously to the breaking out of the Small-pox, 34 died, *i. e.* 1 in 4; whilst, on the other hand, only 10, or 1 in 90, died out of 898 who had been vaccinated. Again, of 179 affected with the true disease, 119 had not been vaccinated, and the mortality amounted to 34, or 1 in $3\frac{1}{2}$; whilst of there maining 60, who had been vaccinated, 10 died, or 1 in 6;[1] of 1043 vaccinated patients in Copenhagen, there died of Small-pox 47; of 123 not vaccinated, partly because they had *had the Small-pox*, 51 died; on the whole, of the vaccinated, there died about 1 in 22; and of those not vaccinated, about one-third fell victims.

The most recent results, which have fallen in my way with reference to this part of the subject, are contained in the last quarterly report of the Registrar-General. They shew the obstinate prejudice which still exists against Vaccination, especially amongst the lower classes, in many parts of the country, and also the great amount of protective influence conferred by the operation. Small-pox, it appears, prevailed epidemically at Lewisham in Kent, and, with the exception of five cases, all the deaths occurred in the unprotected; in East Maidstone district, in eleven fatal cases, eight had not been vaccinated; in Walcot district, Bath, fourteen died, twelve of whom had never been vaccinated; in Bath Eastern district, four individuals died, who had not been submitted to the operation; in Nottingham, St. Ann's district, six deaths occurred under the same circumstances; and in another district at the same time, in eight fatal cases out of ten, vaccination had not been practised.[2]

It is not necessary, however, to adduce farther testimony on this point, as enough appears to shew, that the immunity from casual Small-pox is infinitely greater amongst the vaccinated, than the unvaccinated portion of the community. And the same conclusion is deducible from the comparative results of variolous inoculation, accordingly as the recipients have, or have not, been previously vaccinated.

§ 2. With very few exceptions, all persons are susceptible of the contagion of Small-pox, by inoculation; and the disease, when thus conveyed into the system, may be more or less severe, but always passes through its different stages, with due regularity, as described in a previous part of this essay. But supposing the individual to have been vaccinated, the results, as far as they have been investigated, appear to be totally different, in the vast majority of cases. The most usual effect of the operation, according to Cazenave and Schedel, is to produce merely a

[1] British and Foreign Medical Review, No. ix.

[2] See LONDON JOURNAL OF MEDICINE, No. xxi, September 1850, p. 920.

small local pustule, which rapidly dries up, and more rarely a slight general eruption, for the most part unattended by any active constitutional symptoms. On the other hand, as we are told by Gregory, Vaccination, practised after variolous inoculation, is usually followed by no effects whatever. In rare instances, a modified Cow-pock is produced, the lymph of which cannot be trusted (nor in common prudence should it be), to reproduce the genuine disease.

But the effect of inoculation, at periods remote from the primary Vaccination, are very little known, owing to the difficulties in the way of instituting the inquiry. The experiments, as far as they have gone, are presumably in favour of Vaccination; at least it was demonstrably shewn by Woodville and Jenner, that for three years at least, after the operation, the system appears to resist entirely the effects of variolous inoculation, and analogy favours this view of the case.

3. The last point to which we shall refer, as demonstrative of the influence of Vaccination, is the observed results of Revaccination.

This part of the subject has attracted great attention of late years; and the increasing anxiety in the public mind, as to the real protection conferred by Cow-pock, is traceable in a great measure to the German statistics on this head, coupled with the renewed prevalence of Small-pox: yet both causes of anxiety have, as we think, been greatly overrated, as we shall endeavour to shew in the sequel. It should be premised that Schlesier, Heim, and some other writers, take for granted, that the success of a second operation for Cow-pock, shews the constitution to be equally liable to the casual contagion of Small-pox; and although the identity of the diseases in question may be urged in favour of their views, still it does not by any means necessarily follow, that a vaccinated person, although again susceptible either of the vaccine or variolous virus, when applied in a material form, should be equally liable to contract the disease by atmospheric transmission. This is a point only to be determined by very ample observation.

But assuming for the present, that the receptivity of one form of disease, indicates in an equal degree the receptivity of the other forms, what do the results of Revaccination shew? We shall first state the facts, and then draw our conclusions. In the experience of Lohmeyer, of 48,000 persons revaccinated, 37,000 presented evident traces of previous infection, yet 15,000 had the disease afresh, 12,000 took it imperfectly, and 21,000 not at all; and of this last number, one-third contracted the disease on a second Revaccination, the remaining 3,000 escaping altogether. And of over 44,000 persons, revaccinated in Wirtemberg, during five years, 20,000 were operated on with perfect, and 9,000 with modified success, and in 15,000 the operation failed altogether. Finally, in England, in 1837, forty-five persons in the hundred are described as exhibiting true vesicles after Vaccination.

Now, looking at these details in the most unfavourable point of view, they shew that in many thousands of cases taken indiscriminately, and revaccinated at various periods from the date of the primary operation, one-half, at least, were shielded entirely or partially from a second attack of Cow-pock, and therefore, according to the views of the German physicians, from a consecutive attack of Small-pox. Neither, in aiming at a fair conclusion, should it be left out of view, that many of the persons

operated on may not have had the disease, in a genuine and regular form, after the primary operation. This would be a very unfair way, no doubt, of accounting for all the failures, but a certain proportion of them may thus be reasonably disposed of. It may fairly be assumed also, that amongst the large numbers experimented on, many would be found, with that strong susceptibility of the contagion, which imposes liability to a second attack, even after the patient has gone through a regular irruption of the casual disease. But with all deductions, it must be conceded, that a secondary Vaccination may unquestionably succeed, in a certain proportion of cases.

e. Causes of Failure of Vaccination. Admitting, as all authorities to a greater or less extent do admit, the partial failure of Cow-pock, it becomes important to examine the various causes to which this has been attributed. Of these, some seem calculated rather to occasion manifest imperfection of the vesicle during its progress, than to account for failure of the protective influence, after the disease has apparently gone through its regular course.

A careless and inefficient manner of performing the operation, has been strongly urged, in the report of the Vaccine section of the Provincial Medical and Surgical Association, principally drawn up by its chairman, Dr. Baron, and this has been principally relied on by the followers of Jenner, to account for the want of success. Without, however, going the whole length with that able writer, we believe that the actual number of failures has been exaggerated, and also that a certain proportion of them, but by no means all, may be fairly attributed to the imperfection of the primary operation; as the secondary occurrence of the disease, after the most careful Vaccination, has been placed beyond doubt.

Of the other assigned causes of failure, which appear worthy of being examined in detail, perhaps the most important is the employment of unsuitable virus. Thus if the lymph be taken from a spurious pock, or from a genuine pock at too late a period, we shall in the latter case possibly, and in the former certainly, fail to impart the true protective influence by Vaccination. It has, therefore, always been considered a matter of practical importance, to determine the most suitable period and mode for selecting the lymph for the purpose of transmission. Vaccine matter taken before the eighth day has been objected to, but on no good grounds, except that it is difficult to procure it in sufficient quantity, and as interfering with a desirable uniformity of practice. The period at which it is usually selected is the eighth day, in accordance with the calculation of Mr. Jefferson, the President of the United States of America, who determined, after the most careful investigation, "that the point of time counting from Vaccination, when the matter is genuine, is, in all cases, eight times twenty-four hours." And, for the sake of uniformity, it appears desirable that this rule should be adhered to. But if the progress of Vaccination have been at all retarded, the lymph occurs in greater abundance, and is equally efficient, on the ninth or tenth day. Its employment, after that period, is justly condemned by most writers on the subject; for it will very often fail to communicate the disease. But at whatever stage the virus may be taken, provided it succeed at all, the resulting vesicle will be the same both in appearance and efficiency, as is clearly shewn by the successful effects of

vaccinating with the dry crust. This view of the case is sanctioned by the high authority of Dr. George Gregory,[1] and it appears to be more consonant with the fact than the assertion of Willan,[2] that Vaccination may fail, from the employment of lymph selected on or after the tenth day. In my own experience, I have almost invariably found the vaccine matter, existing in sufficient quantity for transmission, and perfectly energetic, on the eighth day, at which period I have, therefore, made it a rule of practice to operate.

The uncertainty of lymph, taken later, has been attributed to its being diluted with the common product of inflammation; but the experiments of Adams, and of M. Bousquet, conclusively shew, that diluted lymph may be perfectly efficient.

Great objection is made by some parents, especially in the better classes of society, to allow the matter to be taken at all from the arms of their children, but less so amongst the more ignorant, many of whom look on the taking off the pock, as they term it, practised for the purpose of procuring a supply of lymph, as a necessary part of the process. Good feeling will induce us to comply on ordinary occasions with the first-mentioned prejudice; but if every parent were selfishly to act on this principle, the supply of matter could not be kept up, and Vaccination must in a great measure cease altogether. If properly and gently done, no evil can arise; but it is a different question, whether all the vesicles may be exhausted without prejudice to the individual, or to the protective influence of the operation. Heim attributes great local irritation to the exhaustion of all the vesicles. The lymph of a primary is said to be more effectual than that of a secondary Vaccination, and it would require much stronger evidence than that offered by Heim, to convince us that it is desirable to employ the product of a revaccinated vesicle, especially if taken from an adult, which last, he says, is more energetic. In such cases, we should be sceptical both as to its purity and superior efficacy; and his assertion that vaccine matter is scarcely susceptible of mixing with any other virus, would, in no degree, lessen our fears of transmitting by inoculation the poisons of syphilis, scabies, and perhaps of other diseases. Consequently, nothing but the impossibility of obtaining matter from any other source, when urgently required, would overcome the objection just stated. Exhaustion of the entire lymph, in any given case, either by accidental rupture, or for the purpose of transmission, without leaving at least one vesicle entire, is another alleged cause of abortive Vaccination. Heim, we have seen, attributes great local disorder to the practice of exhausting the lymph in all the vesicles, and he mentions one case in which death from convulsions ensued three weeks thereafter. Grave doubts may be entertained, however, whether the convulsions were fairly attributable to the cause indicated; and the inflammation and irritative fever, occasionally of a severe character, which sometimes supervene, are attributable rather to the rough and too often repeated application of the lancet, than to the exhaustion of the lymph. We question farther whether any abatement of efficacy, in Vaccinations otherwise perfect, is a result of the cause above mentioned. Were the exhaustion of the virus to take place before the constitutional

[1] Med. Gaz., vol. xiii, p. 441.

[2] On Vaccine Inoculation.

effects of the operation have arisen, some weight might be attributed to this alleged cause of failure; but at the period when the lymph is usually removed, the disease has affected the system, and it may be presumed therefore that its progress is no longer controllable by any local influence exerted on the part. Hence it may be questioned, whether, even if the vesicle were extirpated, or the arm amputated above the point of operation, the protective influence would be thereby affected. Still, to obviate a possible source of error, it is desirable to leave at least one vesicle unmolested. The question will thus be narrowed, and if failures occur, they cannot, at all events, be attributed to this cause. At the same time, a high degree of inflammation, however arising, may render it prudent to repeat the operation; and the same may be said of a very slight degree of local irritation, or of any deviation whatever from the ordinary and regular phenomena of the process. With reference to this point, it may be further observed, that Jenner directed the superficial lymph, oozing from a slight puncture, to be employed, whereas Dr. Walker detached the epidermis from the vesicle, and used in his Vaccinations the virus which exuded from its floor; and we are told by Dr. Gregory, that the result of one mode of procedure has stood the test of time as well as the other.

Many German writers, and especially Heim, allege that the number of punctures materially modifies the result, and that the production of a single vesicle is not adequate to secure the system from a subsequent attack of Small-pox. They argue, moreover, that the protective power is increased by creating an evident constitutional disturbance, which they endeavour to excite by making a considerable number of punctures, their custom being to revaccinate if one alone comes to maturity. With this view, Camerer, Wanner, Eichorn, and at one time Gregory, who subsequently abandoned the practice, advised the production of twelve, fifteen, twenty, or even thirty pustules. The effect of this must, no doubt, have been to raise a considerable degree of constitutional excitement, but attributable rather to the local inflammation of the numerous sores than to any specific effect of the infection on the system. On the contrary, the high degree of fever thus produced, would seem calculated rather to check than to promote the regular progress of the disease, not to mention, that severe inflammation, gangrene, convulsions, and even death, have been the result of this plan of over-scarifying; and on the whole, the practice may be regarded, not only as cruel and useless, but even positively dangerous; and the supposed advantage is too questionable to justify us in incurring such a risk. And there are good grounds for believing that one genuine vesicle, passing regularly through all its stages, is as effectual as a dozen; but it is convenient to make three or four punctures, to multiply the chances of infection, especially where dry lymph is employed, as well as to augment the supply of matter. For these reasons, except at the express desire of the parent, my invariable practice is to make three punctures on the same arm (to inoculate both is inconvenient not only to the child but the nurse), at such distances as may prevent confluence of the vesicles in their maturative stage.

Deterioration of lymph, arising from its transmission through a great number of individuals, is alleged by Prinz, and many others, to affect

the results of Vaccination, and it is admitted by a few, that such deterioration may actually take place, but only through carelessness or want of due skill. Dr. Baron, on the other hand, expresses his unabated belief in the opinion, that the Cow-pock virus, after transmission through many hundred persons, is now what it was in the beginning. The same view is taken by a recent writer in the *Medical Gazette*, Mr. John Patterson, who expressly affirms that deterioration of the vaccine virus is never a cause of failure, which is attributable to operating with lymph taken before the ninth day, when the pock is matured. The cases which he brings forward, however, even as far as they go, would merely show that the infection is more readily transferred at the later period; but they prove nothing as to the relative degree of protection conferred where the operation succeeds.

It is asserted by Dr. Gregory, that the number of punctures should have reference to the energy of the matter, which, after being long humanized, is alleged to be less active than that more recently derived from the cow, one vesicle with the latter being equal, in his opinion, to five or six made with the former. In these views we cannot concur, as we think that they are neither supported by the analogy of other diseases, nor demonstrated by sufficient experience. In fact, the alleged deterioration of vaccine lymph, in its progress from one individual to another, is a mere hypothesis, and therefore more importance is safely to be attached to the genuine appearance of the vesicle, and the regularity of its progress, than to any theoretical notion about the quality of the lymph, or the source from which it has been derived. It is further obvious, that the hypothesis, which we are discussing, would fail to explain the failures which occurred in the earlier history of Vaccination, even in persons vaccinated by Jenner himself.

The employment of dry lymph cannot be set down as a source of failure of the protective influence, although it may, and indeed is, a frequent cause of failure of the operation. Where liquid matter can be procured, it is always to be preferred; although a regular vesicle proceeding from dry lymph, or even from the scab, is equally efficacious. As it is impossible, however, in any given place, to keep up constantly the supply of fresh vaccine matter, it is of consequence to determine how it may be best preserved and transmitted from one country to another. When vaccine lymph is to be employed within a few days, it may be kept in an effective fluid state, either in small capillary tubes, having a central bulb, or in small bottles, with projecting ground stoppers, as pointed out by Dr. Gregory;[1] but when thus preserved, it is alleged by some authorities to produce an irritable vesicle. Where it is necessary to keep the matter for several weeks, or months, this may be most effectually done by preserving it between two portions of glass, or on ivory points, repeatedly dipped in the lymph whilst liquid. In the Vaccine Establishment in Dublin, they employ the former, and in London the latter method. The ivory points, gratuitously issued from the Royal Small-pox Institution, I have been in the habit of using from time to time for several years, and I have invariably found the lymph both genuine and effective, and the same may be said of the supplies which I have pro-

[1] Cyclop. Prac. Medicine.

cured from the sister metropolis. For transmission to warm countries, the virus is found to preserve its virtues better in the form of crust than by any other method, being simply diluted when it comes to be used.

An irregular vesicle, or modified Cow-pock as it has been termed, should always be looked on with doubt, if not as demonstrative of the non-effective nature of the operation. It may, and perhaps most usually does, arise from some defect in the lymph; but the same result may arise from the most genuine virus employed in a cachectic constitution. No more conclusive proof can be given of this than the well-known fact, which I have repeatedly observed, of the occurrence of the genuine and spurious vesicle, in different individuals, infected with the same lymph. But even when the vesicle in other respects follows its regular course, it is the opinion of some writers, that the formation of purulent matter after the ninth day, indicates a pock in which due confidence is not to be placed, and especially if the consecutive crust is friable, and of less than the usual dimensions. At all events, any vesicle not following the normal course elsewhere described, especially if approaching the irregularities of form, described under the appellation of degenerate pock by Sir Gilbert Blane, cannot be depended on; as where the vesicle is amorphous, or uncertain; the fluid straw-coloured, or purulent; the areola either absent altogether, or confused with the vesicle, or where there is premature formation of the scab. So also the operation is not to be relied on, if, after extreme itching, or premature efflorescence, the vesicle attain its height about the fifth day, or if it shall assume a conoidal acuminated form, or display the characters of a common festering sore. It is equally objectionable when the pock becomes scaly, or the areola is superseded by a species of psoriasis, or by erysipelas. In all such cases, the undeviating practical rule should be to operate again and again, until the disease goes through its regular form, or until we ascertain, by repeated trials, that there is some insusceptibility of constitution, which would probably protect the individual equally against Small-pox. At any rate, the choice remains, in such cases, after a fair trial of the operation at due intervals, between Variolous Inoculation, and leaving the patient to take his chance. Should the failure depend on some derangement of the health, we may succeed after removing this; but in certain constitutions the insusceptibility is permanent. Mr. Crosse calculates that 1 in 50 were thus insusceptible.[1]

Age. Heim advises that no child should be Vaccinated before the termination of the first year, from a theoretical belief that, during that period of life, there exists in the constitution something resistive of the protective influence. In this mode of accounting for failure of Vaccination, and more especially in the advice founded on it, it is impossible to concur, as no sufficient or valid proof has been offered in its support, and the reasons for an early operation are too cogent to be set aside on any speculative grounds. Ryan advises the operation to be performed after the sixth week, and Cazenave and Schedel not before that period, without pressing indications. The opinion of Capuron, which I quote from the Italian translation, having neither the original French, nor an English translation at hand, is to the following effect. "L'esperienza

[1] On Variolous Epidemic of Norwich, p. 32.

attesta, che l'operazione riesce quasi egualmente benigna nel neonato di venti quattr'ore, o di cinque o sei giorni; soltanto se osserva che la Vaccina è più regolare, ed accompagnata da una febbre più mite dai due ai sei mesi; ecco perchè quest' epoca della vita è preferibile ad ogni altra."[1]

In all cases where a child has been exposed to the contagion of the casual Small-pox, we should perform the operation of Vaccination forthwith, in the hope that the milder may anticipate the more malignant malady. The results of our interference will, however, prove to be various, according to the period at which it takes place. Where the vaccine lymph is inserted during the incubative, but still latent, stage of Small-pox, the effect, as stated by Gregory, is, that the latter disease runs through its course unmodified, whether the Cow-pock, as is most usual, either does not advance at all, or at least tardily and imperfectly; or whether, as may more rarely be observed, it passes through its usual process, at the same time as the casual disease. Cazenave and Schedel, however, state, that in vaccinating an infant exposed to variolous contagion, the Small-pox will sometimes adhere to its usual progress, but more frequently assume a modified type; and that, occasionally, even a confluent form of the disease will pursue its regular course, concurrently with the Vaccine eruption. At any rate, the prudent course, in case of exposure to variolous infection, is at once to vaccinate, in the hope that the germ of the casual disease may not yet have been imbibed.

The following strong practical reasons for an early operation are supplied by the Registrar-General in his First Report for the year 1839. At Bath and Liverpool, 22 children died, between birth and the second month, of Small-pox; 41 between the third and fifth months; 54 between the sixth and eight months; and 59 between the ninth and eleventh months, amounting in the whole to 176 deaths within the first year; whilst 158 children perished from the same disease in the second, and 110 in the third year.[2] Mr. Farr therefore advises Vaccination to be performed within the third month.

When Variolous Inoculation was generally practised, the fourth month was the period selected for the operation, and the same period is well adapted for Vaccination. In my own practice, I usually select any age from the third to the fourth month, if no constitutional disease, or other circumstance be present to contraindicate the operation; vaccinating, however, at an earlier period, if there be any risk of contagion from the prevalence of casual Small-pox. The period advised by Gregory is between the third and fifth months, when the child has acquired plumpness, and before dentition has commenced. Capuron considers the spring and autumn to be the best seasons of the year for Vaccinating; but this is a point of trivial importance, and at any rate, inconsistent with the rule of practice laid down as to the infant's age, the observance of which will of course impose on us the necessity of operating at all periods throughout the year.

According to Heim and some other writers, the process of teething does not interfere with the due results of Vaccination; but it appears to

[1] Capuron. Tratt. delle Bambini. Ed. Nap. p. 211, 1828.
[2] Brit. and For. Med. Rev., No. xviii, p. 353.

us, and many of the best authorities might be cited in confirmation of our opinion, that febrile excitement, from whatever extraneous causes it may arise, seems certainly calculated to interfere with the regular development of the disease; and dentition, if accompanied by fever, offers no exception to the rule.

In cases where the formation of the teeth is unattended by any very evident constitutional disturbance, the Cow-pock may possibly pursue its regular course; but, except for some urgent reason, Vaccination should not be performed at all during the period of dentition.

It is further asserted by Heim, that inflammations, certain fevers, and influenza, so far from interfering with, assist and hasten the effects of Vaccination; whilst nervous fevers, as he alleges, as well as hæmorrhages, dysentery, and cholera, retard their progress. Jenner also expressly states, and in this Gregory coincides with him, that the process of Vaccination will be delayed, perhaps for many days, where the infection of measles or scarlatina has been imbibed before the operation.[1]

Heim is again at issue with both Hering and Jenner, as to the influence not only of acute, but of chronic diseases of the skin, asserting, that herpes and itch usually exert no essentially modifying influence on the progress of the vesicle, whilst Hering positively affirms the modifying power of the last mentioned complaint; and it is set down as a law by Jenner, that the pre-occupation of the skin by any disease capable of affording a humour, is "the grand impediment to the success of Vaccination."

By Capuron, not only the process of dentition, but the periods of puberty, pregnancy, child-birth, and menstruation, are enumerated as unsuitable for the operation. Now it is quite possible, that the vaccine process may at times appear to go through its various stages regularly, under the circumstances described: but the more prudent course will be, never to vaccinate, except under exposure to variolous contagion, when the system is deranged from any cause whatever. By following this plan, one source of error, in ultimately arriving at the exact value of Vaccination, will be avoided; nor can the discovery of Jenner be said to have a fair trial, if the regulations laid down by him be not strictly attended to.

Retardation of the infection is another assumed cause of failure of the protective influence. It is well known, that a vesicle arising from the most genuine lymph, may, from non-absorption, or some unknown cause, be delayed in its progress, for a day or two, and occasionally for so long a period as eight, ten, twenty, or even twenty-five days, and the disease may afterwards pass through its various stages with perfect regularity. In one individual in the Prussian armies, the pock did not appear until six weeks after the operation; and in a child properly vaccinated with dry lymph, in whom no effects were observable, a number of fresh punctures, with liquid lymph, were made on the eighth day thereafter, all of which succeeded, as well as two of the punctures, which had been made in the first instance.[2] We have, in our own practice, seen the effects delayed as late as the ninth day, owing, as we thought,

[1] Jenner's Facts and Obs., pp. 137 and 170.
[2] Brit. and For. Med. Rev. No. xv, p. 262.

to some constitutional peculiarity; and Heim assigns the same cause. By other German physicians, this retardation has been attributed to cold weather. But however this may be, in some countries, and in certain seasons, the difficulty of conveying Cow-pock by inoculation has been so great, and so general, (at Turin, for instance, in 1829), that we must admit with Griva, Howison,[1] and others, the influence of a peculiar condition of the atmosphere. The effects of the Sirocco, and of other hot winds, in interfering with the process, are well attested.

It appears, even from the statistics of the continental physicians, which have been one principal cause of exciting distrust in the public mind, as to the real efficacy of Cow-pock, that about one-half of all the persons, who have been subjected to its influence, are proof against the effects of Revaccination. Hence it might be reasonably inferred, that the consecutive liability of the other half depends on some irregularity in the primary operation; and without assigning this, in accordance with Dr. Baron, as the sole cause of failure, no doubt it is so in a very considerable number of instances. But it has been well established, that, independently of any imperfection in the lymph, or in the mode of applying it, a certain undetermined proportion of the vaccinated again become susceptible of the variolous contagion; and it is therefore a question of great importance, but of great difficulty also, to determine on what this consecutive liability depends. By some, it is explained as a mere exception to the general rule, and as analogous to the secondary occurrence of Small-pox in individuals, who have already passed through the disease in its natural form; and this, no doubt, is the true explanation, to a certain extent. Another mode of accounting for consecutive susceptibility of the contagion, is by supposing, that the vaccine vesicle, whilst apparently passing with due regularity through all its stages, fails, from some inappreciable causes, in imparting its genuine influence to the system, which is therefore only seemingly, but not, at any time, really protected.

A third explanation is, that the protection imparted by Vaccination, even in the most perfect manner, wears out in process of time.[2]

Heim expressly asserts, as the result of his extended experience, that the number of persons liable to secondary attacks of Small-pox is increased in proportion to the lapse of time from the primary operation, and endeavours to account for this renewed liability, by supposing, that even after a perfect Vaccination, a portion of the susceptibility has been left unextinguished, which is possibly beyond the reach of the protecting powers of the lymph.[3] Wendt also observed, that cases of secondary variola were milder, according as the patient was younger, and therefore concluded, that the protective power was really diminished after the expiry of many years.[4] This opinion, however, is not, by any means, confined solely to the physicians of Wirtemberg, and other continental states; for Burns, many years before the observations of Heim were published, had expressly stated, that the liability to a second attack of Small-pox increases in proportion as we recede from the date of the first Vaccination, and augment the activity of the infection;[5] and

[1] Med. Gaz., vol. viii. [2] Mr. Brown in Med.-Chir. Trans., Vol. xii, p. 336.
[3] Brit. and For. Med. Rev., No. ix. [4] No. xiii.
[5] The Principles of Midwifery. Sixth Edition. London: 1824.

Spooner,[1] very recently, has advocated the practice of Revaccination on the same ground. Dr. Alison, also, whose caution and precision in drawing his conclusions, render his opinions of the highest authority, expresses his view of the subject in the following terms:

"The most important question in regard to this mitigated form of Small-pox is, whether it is more apt to occur, or approaches nearer to the natural disease, in those vaccinated long previously: and the fairest conclusion that can be drawn from the facts hitherto ascertained is, that, if not occurring more frequently, it is oftener severe in those long previously vaccinated, than in others; whence it may be inferred, that when the disease is prevalent, Revaccination may be an effectual preventive as to some who might otherwise be affected."[2]

Many accurate observers, on the other hand, are of opinion, that distance of time impresses no modification on the anti-variolous power of Cow-pock, which is alleged to resist the contagion equally at all periods of after-life; and it is further urged, that if a secondary attack of Small-pox actually becomes developed, the symptoms are alike modified, whether the primary operation has preceded its appearance by some years, or only by a few days. And certainly this view of the case is more in consonance with the law, which seems to regulate other diseases occurring only once during life; for the protective effects of measles and scarlatina are not known to suffer any diminution by lapse of time.

It is pretty evident, therefore, that renewed and extended observations are necessary to determine, at all accurately, the proportion of secondary attacks, which should be assigned to each of the alleged causes which have been passed in review. But to whatever it may be attributed, the fact cannot be disputed, that Small-pox unquestionably occurs after Vaccination, and, as it is alleged, with increased frequency of late years. The actual amount of such cases has, however, in our opinion, been greatly exaggerated, and the fatality of the epidemic, even in the places which it has most severely visited in these kingdoms, is in no degree to be compared to that of the epidemics of an earlier date, before the introduction of Cow-pock. And if from the entire number of deaths, which have occurred, we deduct those fairly attributable to the total neglect, or the imperfect performance of Vaccination, as well as those occurring in constitutions absolutely insusceptible of protection, the remainder, supervening after the perfect progress of Cow-pock through the system, will, I apprehend, be found to be extremely small. Within my own sphere of observation, the occurrence of Small-pox, especially in the unmodified form, after genuine Vaccination, has been very rare; and Baron, whose opinion on this subject is not lightly to be controverted, alleges, that the cases of Small-pox occurring after Vaccination, are not more numerous than those occurring after a previous attack of Small-pox, and consequently, it may reasonably be presumed, after Variolous Inoculation. On this point, we think, the practical question in a great measure turns; for if it can be conclusively shewn, that Vaccination, confessedly preferable, in point of mildness and safety, to either the casual or inoculated disease, confers an equal degree of exemption from a se-

[1] Prov. Med. and Surg. Journ., July 1850.

[2] Alison's Outlines of Pathology and Practice of Medicine. Part ii, pp. 475-6.

condary attack, no farther room would remain for controversy. For it is not reasonably to be expected, that Cow-pock, formerly believed, and more recently proved, to be in itself only a modified form of Small-pox, should impart any greater amount of protection than the more severe forms of the malady.

The view of Baron, just alluded to, is, however, opposed by various authorities,[1] and it must be conceded, that data do not exist which enable us to arrive at a definitive conclusion; but, reasoning from analogy, now that the identity of the different forms of the disease has been established, the fair inference appears to be, that the immunity afforded should be in each case the same. But, even if we were to admit consecutive attacks of Small-pox to be more frequent after Vaccination, at the present time, than after the casual disease, there are good grounds for believing, that they could, at all events, be reduced within the same limits, by the more perfect and careful performance of the operation. For, without totally denying the influence of other agencies, I think there is sufficient statistical information to shew, that by far the most influential cause of the renewed frequency of Small-pox, is the total neglect, or imperfect performance of Vaccination; a fact which, if fully brought before the public, appears highly calculated to restore their confidence in the preventive efficacy of Cow-pock.

But whatever may be the comparative frequency of secondary attacks, after Vaccination and Small-pox, it is certain, that the mortality is much less after the former than the latter, and infinitely below that occurring in cases totally unprotected by the previous occurrence of the disease in any form. To illustrate: of 556 cases of Small-pox which fell under the observation of Dr. John Thomson,[2] in 205 the disease was primary, and of these 50 died, or rather more than 1 in 4; 71 had previously had natural Small-pox, and of these 3 died, or 1 in about 23. The remaining 310 patients had been vaccinated, and only one case proved fatal! Again, of 419 patients admitted in 1825 into the London Small-pox Hospital, 263 were unprotected, and of these 107 died; of two previously inoculated with Small-pox, one died; whilst of 147 who had been previously vaccinated, death occurred in 12. Such a rate of mortality as this last, although still very much in favour of the comparative safety of Vaccination, is higher than in any other recorded instance. But it afterwards appeared, that only one of the twelve patients alluded to, was proved to have been efficiently vaccinated; and therefore the unfavourable opinion, deducible from the original report, must fall to the ground.

Out of a large mass of statistics illustrative of the same point, the following facts, referred to in Dr. Watson's admirable *Lectures on the Principles and Practice of Physic*,[3] appear conclusive. Of the population of Marseilles in 1828, among the 30,000 vaccinated, about 2,000 were attacked with Small-pox, and 20 perished, or 1 in 100. Of 8,000 unprotected, 4,000 were attacked, and 1,000, or 1 in every 4, died. And out of the 2,000 variolated, 20 took the disease a second time, and 4 died, or 1 in 5. On reading these details, the immense value of

[1] British and Foreign Medical Review. No. xii, p. 494.
[2] On Varioloid Diseases.
[3] Third Edition, p. 798.

Cow-pock in saving human life is irresistibly forced upon us. Yet a charge of an opposite tendency has been made against the practice, to which it is merely necessary to advert. Many years ago, it was apparently demonstrated by Dr. Watt, of Glasgow,[1] that the effect of Vaccination was to increase the other diseases, and consequently the mortality of infancy; but this view was subsequently shown, by the researches of Roberton and Cowan, to be based on erroneous statistics, and it has, we believe, been long entirely exploded. But we must now proceed to examine the measures, which have been suggested, to remedy the admitted failure of Vaccination to a certain extent.

III. Remedies which have been suggested to obviate partial failure of Vaccination—Variolous Inoculation—Employment of Lymph taken afresh from the Cow instead of the stock in general use—Increased Number of the Vesicles—The universal adoption and more careful performance of Vaccination and Revaccination under peculiar circumstances, and at suitable intervals.

a. Return to Variolous Inoculation. A few writers recommend that Vaccination should be relinquished for Variolous Inoculation, and others have proposed that the latter should be performed in all cases after the former, at once in proof and in aid of its efficiency. In point of mildness and safety, as is universally known, no comparison can be instituted between the two resulting forms of disease, and the subject for practical consideration is, therefore, not only whether the protective influence of inoculated Small-pox is greater than that of Cow-pock, but so much greater, as to render it advisable, or even prudent to abandon Vaccination altogether, or at least to test or aid its effects, in every case, by subsequently inserting the Small-pox virus.

Before adopting any change in our practice in this respect, it is incumbent on those, who advise the alteration, to enforce their views, not only by a general expression of their opinion, but reasonably to demonstrate by a reference to accredited facts—for no general expression of belief will suffice—not only, that the number of attacks, but also the number of deaths, from Small-pox secondary to Vaccination, is greater, in any given number of cases, than in Small-pox secondary to the variolous disease, whether casual or inoculated. Neither will the statement of bare results be conclusive, unless accompanied by reasonable proof that the primary Cow-pock was perfectly efficient and regular; for it is obvious, that any inferences unfavourable to Vaccination, as far as they are drawn from its imperfect performance, are thereby vitiated, and useless in determining the true value of the operation. It therefore becomes necessary to examine somewhat closely the evidence on this head. From the almost general abandonment of Variolous Inoculation in the present century, little statistical information can be adduced in illustration of its comparative efficacy; but there is quite enough to shew, that the assumption of complete immunity being thereby afforded in after life, is totally opposed to the facts of the case. It may also be reasonably presumed, that the inoculated is, at the utmost, not a more powerful prophylactic than the natural form of Small-pox. Yet it is now fully established, that

[1] Edin. Med. and Surg. Journ., vol. x; and Maunsell and Evanson on the Diseases of Children, first edition, p. 440.

the occurrence of a secondary attack, after the latter, is anything but an unusual occurrence; and the researches of Thomson, Bryce, Mohl, and others, may be adduced, as shewing that its modifying influence is actually inferior to that of Vaccination.

We have already pointed out, that it is quite erroneous to suppose that Variolous Inoculation confers any certain exemption from a consecutive attack of the natural disease; and this is proved by facts of the following kind. In the records of the London Small-pox Hospital, before referred to, of two cases of Small-pox, known to have occurred after Inoculation, one proved fatal; and at least one other person died of a secondary attack in Norwich, in 1819, and many other instances of the same kind might be adduced. Certain writers, moreover, affirm, that a subsequent attack of Small-pox is much less frequent after the casual, than after the inoculated disease. According to the conclusions drawn from the London Bills of Mortality by Jurin, to which we have already alluded, as quoted by Dr. Baron in his *Life of Jenner*, death occurred in the proportion of one in every fifty of the Inoculated.

At the utmost, therefore, we think it questionable, whether the protection capable of being conferred by the practice of Inoculation, would exceed that afforded by Vaccination, if universally carried out in the most perfect form of which it is capable. And in estimating, generally, the comparative advantages of the two plans, we must keep steadily in view the greater severity of the symptoms, and the much higher ratio of deaths, directly resulting from the operation, in the case of Inoculated Small-pox, as well as its inevitable tendency to increase the absolute mortality by the diffusion of contagion. This last consideration alone, as affecting the general welfare, is worthy of the most mature consideration; for, conceding that successful precautions might be taken to prevent the spread of the disease, under particular circumstances, it is easy to foresee, that the practice of general Inoculation, from a variety of causes, would again be followed by a great increase of the natural disease, as in former times, when the total mortality from this cause, as shown by Heberden, was swelled from 7·4 to 9·5 per cent. It is also instructive to contrast the diminished mortality, arising from Small pox, at the present day, with that occurring before the discovery of Vaccination; for it appears that, even after Variolous Inoculation was in general operation, 1 in 14 of all persons born, died of Small-pox.

It has been a question, whether the entire prohibition of Variolous Inoculation by law is a desirable measure; but, strongly as we are opposed to the resumption of the operation as a general practice, we agree with several previous writers in the belief, that a positive enactment on this head is neither desirable or necessary. Particular instances may occur, as in the outbreak of Small-pox in a ship at sea, in which anticipation of the natural disease, by the artificial method, would certainly be followed by a great saving of human life; and we think that the circumstances under which Inoculation may be beneficially resorted to, may be safely left to the determination of the medical profession, who have already decided against it as a general practice. But the total prohibition of Inoculation by the hands of the ignorant and unqualified, is but a simple act of justice to the general community; the more especially, as the inoculated disease, even when occurring in its mildest shape, is capable of

diffusing the infection in the most severe and deadly forms. With such facts as the following before them, capable of being swelled to a long and sad catalogue, but which we have selected as the most recent, it is surely time for the legislature and the executive to interpose in an effectual manner. At St. Thomas's, East Budleigh, Devonshire, eleven individuals died of Small-pox, which had been propagated by persons opposed to Vaccination, and who *had inoculated not only their own families, but those of their neighbours.*[1] Facts like these fully justify the strong condemnation of so barbarous and fatal a practice, contained in the Report of the Vaccine Section of the Provincial Medical and Surgical Association of 1839, and the recommendation that it should be invariably superseded by Vaccination.

b. Renewal of Lymph, by taking it afresh from the Cow, for the purpose of Vaccination. It has been asserted, but by no means satisfactorily demonstrated, that lymph, taken directly from the cow, is more effective than the stock which has been so long in use, and which has been alleged to become weakened by transmission through numerous subjects. The testimony on this point is, however, discrepant. Many believe that there is little or no difference between the effects of the old and new virus; whilst in the hands of Mr. Estlin,[2] and some other English practitioners, the results have been apparently favourable to the fresh stock. That form of lymph, obtained by Mr. Ceely from direct inoculation of the cow with the Small-pox, has been found to act successfully and energetically in reproducing the vesicle in man; but whether it shall be superior to that in general use, can only be decided by extended experience. That a deteriorated form of virus, yet capable of transmission, may be produced by carelessness or want of skill, I think there is no reason to doubt, even if it had not been proved by the researches and experiments of the late Dr. John Thomson, of Edinburgh; but, provided all the directions of Jenner be adhered to, in which case only it is fair to judge, I have seen no just grounds for concluding, that the genuine vaccine vesicle, in appearance, progress, and effect, is not precisely the same that it was in his day. It appears, however, that more severe constitutional symptoms are produced by lymph taken directly from the cow; and those who hold that febrile irritation is a measure of the due effect of the virus on the system, will, of course, give it the preference. But many competent observers have adjudged the superiority to the human lymph, as more mild, equally sure, and, at the same time, entailing fewer accidents. Still, various circumstances may render it necessary to draw a fresh supply of virus from the cow; but in so doing, it is a matter of the first consequence, in order to ensure protection to the vaccinated, that the most accurate distinction shall be made between the genuine pock in that animal and the spurious forms of the disease, which caused so much embarrassment to Jenner, and which might still lead to a variety of false conclusions respecting the real value of Vaccination. The best practical rule to guide the less experienced in such matters, will be, to reject all forms of the pock

[1] Report of the Registrar-General.

[2] See a paper read before the Medical Section of the British Association, "On the New Vaccine Virus"; and another "On the Cause of the Increase of Small-pox, and the Origin of Variola Vaccina", by Dr. Inglis, in 1839.

which appear the least doubtful, and extract the lymph only from such as correspond closely with the symptoms of the genuine disease, which, principally to this end, the reader will find minutely described at a former page. The necessity for this precaution will appear, from a statement made by Heim, that there are no less than eight forms of Cow-pock. Of these, three, described as Viborg's wart or stone pock, the white eruption of Thär, and the wind-pock, are incommunicable to man. The five varieties capable of transmission to the human system are, the amber-pock of Nissen, the black-pock of Nissen, the bluish-pock, the white-pock, and the red-pock. Of the spurious forms of disease, the white-pock is perhaps the most common source of error; as it sometimes exhibits a well defined vesicle, a pink areola, and even the central depression; but its true nature may be detected on close examination, as it is destitute of two of the most striking characteristics of the genuine vesicle, namely, the presence of a fluid lymph, and the cellular structure. The distinction will be more evident in other forms of the spurious disease, presenting the appearance of reddish pustules, containing a yellow humour; mere vesicles containing a viscid, or watery fluid; a miliary eruption, characterised by the rapidity of its progress, and terminating variously in different forms of corroding ulcer; or warty induration. The subject is rendered still more embarrassing by the fact, that the true and false diseases may be prevalent at the same time, and even co-exist in the same animal. Jenner (by whom the bastard forms of pock were classed together, under the appellation of spurious cow-pock) pointed out, as broad distinguishing marks, their freedom from all bluish, or livid tints, and their property of desiccating quickly, without producing any constitutional disorder.

We have not space here to enter more fully into detail; but ample information, on the disease in the cow, will be found in the works of Jenner, Ceely, Heim, Hering, Prinz, Thiele, and other writers, who have expressly investigated the subject.[1] But from the great variety of affections in the cow, and the rare opportunities afforded to most physicians of acquiring an adequate practical knowledge of the subject, the more prudent plan, supposing at any time we may deem it expedient to renew our supply of lymph, will be to produce the disease in that animal, for the express purpose, by Variolous Inoculation. And in all cases, without exception, where the resulting phenomena, after vaccinating directly from the cow, do not appear to be perfectly regular, we should revaccinate the patients, and cease to employ the lymph for the further transmission of the malady.

But neither the casual, nor the inoculated disease in the cow, is the sole source of vaccine virus; for lymph may be procured, although with some difficulty, by the practice of Retrovaccination, or the artificial communication of Cow-pock to that animal, from the human subject. The experiments of M. Fiard, and the scepticism of Gregory on this point, have already been glanced at; but the conclusive and beautiful experiments of Mr. Ceely have subsequently put the matter

[1] See also Brit. and For. Med. Rev., No. xiii, p. 190; and No. xvii, p. 95. Trans. Brit. and For. Med. Ass., Vol. viii, 1840.

beyond doubt, and farther shewn that the vaccine lymph, thus procured, may again be transmitted with success to the human system. It is worthy of remark, however, that when thus employed, the resulting vesicle is smaller than usual, and does not reach its acme till the eleventh, twelfth, or thirteenth day; recovering, however, after two or three removes from the cow, its usual characteristics[1]. It is contended by Prinz, that this process of Retrovaccination has the effect of renewing the efficiency of the lymph, supposed to be impaired by repeated transmission through the human subject; but, even if this deterioration were admitted as a fact, it does not appear how the process could restore its efficacy. Practically speaking, the only useful object of Retrovaccination is to increase the supply of vaccine matter; for though some have argued that its quality is improved, and others, that it is deteriorated by this process, to us it appears that it would just be possessed of the same qualities, and be neither better, nor worse, for its retransmission through the cow.[2] Where it is desired to experiment on the subject, genuine vaccine lymph, taken fresh from the arm, should be freely applied to the teats and udder of a young animal. The spring is said to be the best season for performing the operation.

It may here be mentioned that, in describing certain peculiarities of the disease in the cow, Ceely[3] details some very interesting circumstances, which render it extremely probable that the Cow-pock, in one instance, had its origin in several of those animals from variolous effluvia.

c. Increased Number of Vesicles. We have already adverted to this point, and shall here only point attention to the conclusions of M. Delfraysse, contained in a note addressed to the Academy of Medicine of Paris, as the most recent promulgation of opinion that has fallen under our notice. The French writer expresses his conviction, that Vaccination is an infallible preventive, where the vesicles are sufficiently numerous to produce a degree of febrile reaction; and that its failure is attributable, as Heim has maintained before him, to the absence, or insufficient development of this febrile affection. He therefore recommends from twenty to thirty punctures, to be made in each case, in different parts of the body.[4] M. Delfraysse, in proof of his doctrine, alleges that all his patients, thus vaccinated, have resisted the influence of variolous contagion. No doubt they have: and so also have innumerable persons, protected only by two or three vesicles. But we do not maintain that a large number of punctures are ineffectual, but simply that they are cruel, inconvenient, and superfluous. We admit that thirty vesicles cannot be raised, on different parts of the surface, in any case, without producing symptomatic fever; but we question the advantage of the practice; and it evidently leads to embarrassment, as it does not appear possible to distinguish the constitutional disturbance, excited by so many wounds, from the

[1] See Brit. and For. Med. Rev.; and Dublin Med. Press, Aug. 1839.

[2] See Brit. and For. Med. Rev. No. xvii, p. 85.

[3] Mr. Ceely in Trans. of the Provincial Med. and Surg. Association, vol. x, p. 354; also, Brit. and For. Med. Rev., No. xxviii, p. 398.

[4] Dublin Medical Press, Nov. 6, 1850, p. 294.

specific febrileirritation, resulting from the effects of the vaccine virus on the constitution. And, further, if the doctrine of M. Delfraysse were true, Revaccination should succeed not in one half, but in the entire number of cases exposed to its operation. On the whole, we confess our scepticism as to the plan being either judicious, or necessary.

d. Vaccination and Revaccination. Little importance can fairly be attached to renewal of the lymph, or to the employment of a great number of punctures, as means of increasing the defensive efficacy of Cow-pock ; and Variolous Inoculation has not only been shewn to be a dangerous and ineligible substitute for Vaccination, but its actual superiority, as a protective, may be fairly questioned. Cow-pock is admitted, on all hands, to confer immunity from Small-pox, in the vast majority of instances ; and any additional security to be hoped for will probably be found, if due means shall be taken to ensure the universal and careful practice of Vaccination, aided by Revaccination, under peculiar circumstances, and at suitable intervals.

How efficacious the measures advocated would prove, may be clearly shewn, by contrasting the following table of results, occurring amongst the British troops, where Vaccination is duly attended to, with what is known to occur amongst the civil population, from the culpable and reckless disregard of the means of safety too frequently exhibited.

TABLE, compiled from the official "Statistical Reports", for twenty years, commencing in 1817, and ending in 1836.

	Aggregate Strength.	Total Mortality.	Deaths from Small-pox.
Dragoon Regiments and Guards	44,611	627	3
Troops at Gibraltar	60,269	1,291	1
In West Indies, where Small-pox was several times epidemic	86,661	6,803	0
Black troops	40,934	1,645	0
In Malta, for 19 years, where Small-pox raged as an epidemic, and destroyed 1,169 persons	40,826	665	2
In Ceylon, where above 3,000 of the natives died of the epidemic in 1819, 1830, 1834, White troops	——	3,000	4
Malay troops	——	858	9
Pioneer corps	——	647	1

Similar results were observed in India, and other British colonies ;[1] and I think it would be impossible to adduce any stronger, or more convincing practical argument, in favour of the high degree of protective power exerted by Vaccination. After reading it, we may truly adopt the conclusion of Dr. Watson, "Where Vaccination is, the contagion of Small-pox need never come."

The conditions of the lymph, and of the system, necessary to the successful transmission of Cow-pock, have already been discussed at full length ; but it remains to say a few words as to the most effective manner of performing the operation. This, in itself, is by no means difficult ; but considerable skill, and due attention, are necessary, not only to determine the genuine characteristics of the vesicle, but to decide, whether it shall have gone regularly through all its stages, and

[1] Watson's Lectures, third edition, vol. ii, p. 799.

imparted its full protective influence to the system. Hence, in Germany, the physicians and surgeons are alone allowed to operate; and a similar regulation might be adopted in these countries with great advantage. Few physicians think it necessary to employ any preparatory treatment; but the use of a gentle aperient, as recommended by Ryan, cannot, at all events, do any harm. The operation itself is done variously. Some recommend a clean, and some a blunt lancet to be used. One surgeon advises a single puncture to be made in each arm, another three or four, and a third as many as thirty, whilst a fourth prefers longitudinal scratches to punctures. Capuron says, the less painful the puncture, the better characterised will the pock be; and Elliotson advises the lancet to be so held, that the matter may gravitate into the wound. Cazenave and Schedel, on the contrary, direct the instrument to be introduced horizontally; and they object to incision as being less sure than puncture, by causing a flow of blood, and thereby diluting the lymph. Now all this rather savours of the foppery of science. Vaccination may be perfectly well performed either by puncture or incision; and he must be a very coarse operator indeed, who shall wound the arm in such a manner as to produce any serious degree of irritation. This may, doubtless, arise in peculiar constitutions, after any mode of operating; and it is very likely to occur, when the cruel and unnecessary plan of creating a great number of punctures is resorted to. The objection, founded on the dilution of the lymph by the flow of blood, we hold to be purely theoretical, and not based on accurate observation. At one period, I had considerable experience on this point, having vaccinated as many as one hundred and eighty individuals in a single day, and most of them successfully; but it never appeared, that the results were affected by the degree of hæmorrhage, which depends rather on the constitution of the child, than the want of dexterity of the operator. We may naturally expect an infant of full habit to bleed freely; and the actual state of the matter appears to be correctly expressed by Dr. Gregory, when he says, that provided genuine lymph has come in contact with the absorbing surface of the cutis vera, it is no matter whether little or much blood flows.

The plan which I adopt in my own practice, is to render tense the skin of the arm to be operated on, by gently grasping it in the left hand, and then to carefully make a few slight scratches with the point of the lancet, previously charged with fresh fluid lymph, on three different points, at the distance of about an inch apart, so as to guard against the possibility of the vesicles running into each other. The lancet should be immersed anew in the lymph after making the scarifications, and gently drawn over the wounds, to transfer to them the matter as completely as possible. The same manipulation should be repeated at each point operated on. This mode I have rarely found to fail, except where constitutional insusceptibility of the infection was present.

For the convenience both of the child and nurse, the more convenient plan is to vaccinate only one arm, as the vesicles can thus be much better defended from accidental injury and irritation. The object in making three punctures is two-fold; first, to multiply the

chances of success in the operation ; and in the second place, to provide a supply of lymph, for transmission, without disturbing all the vesicles ; and not from any belief that twenty punctures would more certainly impart protection to the system than one. At any rate, analogy is in favour of this view of the case ; for the casual small-pox appears to protect equally, whether the pustules be many, or few. Of course, where liquid virus cannot be procured, after making the necessary scratches with the lancet, the dry lymph should be effectually rubbed into them. The child's dress should be carefully adjusted, so as to prevent contact with the arm until the wounds are dry, and friction must be sedulously guarded against, as soon as the vesicles begin to form. Examination of the patient, at due intervals, afterwards, especially on the fifth, eighth, and tenth days, is indispensable, to ascertain that the progress of the disease is perfectly regular.

The most eligible age for Vaccination has already been pointed out ; but we should not delay to operate at any time, where the infant is either likely to be exposed, or has already been exposed, to the contagion of the natural disease, taking the chance that the milder may anticipate, and possibly prevent, or at all events modify, the more malignant malady. With reference to this part of the subject, we shall introduce some of the results observed in such cases, as well as certain experiments which have been instituted with the Small-pox and vaccine lymphs.[1]

Where the variolous and Cow-pock virus are inserted on the same day, each malady may pursue its course unaltered, with considerable constitutional disturbance; or they may be mutually modified by their influence on each other, the Small-pox being greatly mitigated, and the eruption either proving abortive, or terminating in imperfect hard shining pustules, called horn-pock, stone-pock, or swine-pock (*variolæ verrucosæ*).

Where Vaccination precedes Inoculation by a period not exceeding four days, the local diseases advance together, but the Small-pox may or may not be accompanied by a general eruption, and the constitutional symptoms may be very slight. In such cases, the vaccine lymph retains its peculiar properties; but more frequently it is contaminated by the variolous virus, and consequently it should not be used for the transmission of the disease.

Variolous matter will affect the system more or less severely, where Inoculation is practised anterior to the seventh day from the period of Vaccination, but subsequently it will produce no effect.

Inoculation with Vaccine and Small-pox matter mixed, is sometimes followed by Cow-pock, and sometimes by Small-pox ; and if the two forms of lymph be introduced at the same time, at separate points, but near enough to permit the vesicles to unite, the virus thence taken shall in one case produce Cow-pock, and in another Small-pox.

From observing some fatal cases, occurring in infants cotemporaneously affected with Cow-pock and Small-pox at the Children's

[1] Willan on Vaccine Inoculation. 1806.

Hospital of Paris, it was believed by MM. Rilliet, Barthez, and Legendre, that Vaccination exerted an unfavourable effect; an opinion controverted by M. Herard, who came to the conclusion, consonant with general experience, that when the two eruptions are developed together, the variola is advantageously modified, but less so in an unhealthy than a healthy child. And he adds, very justly in our opinion, that the danger in such cases arises from the Small-pox and not from the Vaccination, which should, as at least innocent, be practised in all cases.[1] This is judicious advice, at all events, although it may frequently fail to produce the desired results; and it is scarcely necessary to say, that the previous directions, regarding the mode and period of selecting the lymph, and the health of the patient at the time of operating, should be strictly attended to. In leaving this part of the subject, we may be permitted to express our conviction, that Vaccination, if universally carried into effect, with all the precautions alluded to, would be found at once the safest and most efficient means within the reach of human power, to arrest the ravages of Small-pox. At any rate, its superiority over Inoculation, in diminishing the absolute mortality from that disease, is strongly illustrated by the following results, deduced from the tables of Sir Gilbert Blane.

In the fifteen years immediately preceding the introduction of variolous Inoculation, the mortality arising from Small-pox amounted to 78 in every 1000 deaths from all causes; in the next thirty years, when Inoculation was in use, the ratio was about 90 to 1000; and in the following fifteen years, after the introduction of Vaccination, the mortality was reduced to 53 in 1000.[2] Were it not superfluous, we might farther refer to the vast saving of human life, consequent on the introduction of Cow-pock into Sweden and Prussia.[3]

But admitting that the most perfect Vaccination does not render all persons proof against the subsequent effects, either of the casual contagion of Small-pox, or of variolous or vaccine Inoculation, we are not thence to infer, that the practice is less efficacious now than it was at the earlier period of its history; but simply that Jenner overrated its power, in alleging that it extended complete protection to all who submitted to the operation; for it is now well known that, in many constitutions, the susceptibility is so strong as to be absolutely beyond the protective influence of the variolo-vaccine virus in any shape. The class of persons alluded to we believe to be greatly more numerous than has been commonly supposed, in proof of which it may be stated, that in the experiments of Heim, Vaccination, practised after Small-pox so severe as to leave the patients marked with scars, *succeeded in more than half the cases;* a result nearly analogous to the effects of Vaccination after Cow-pock.

With reference to Revaccination, the practical questions which we are called on to decide are these: Is it necessary or desirable, for the purpose of protecting the system from the contagion of Small-pox, to revaccinate, where the primary operation has been effectively per-

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[1] L'Union Médicale, and Med. Chir. Rev., 1849, quoted in Monthly Retrospect, ann. eodem, p. 158.

[2] Med. Chir. Trans., vol. x. [3] Ed. Med. and Surg. Trans., vol. xxvi, p. 171.

formed ? and if so, how often and at what periods of time ? For there cannot of course be any doubt as to the propriety of a second Vaccination, where the process has either partially or completely failed, in the first instance, either from imperfection in the lymph employed, or from the existence of some cotemporaneous disease, or constitutional peculiarity in the patient. It was announced by Jenner himself, that the system, after a time, has its susceptibility of Cow-pock renewed, a position subsequently demonstrated by the observations made in Wirtemberg and elsewhere. Thus of 275 Revaccinations, in the Danish army, recounted by Wendt, considerably more than one-half succeeded, and it were easy to adduce a mass of statistics of a similar tenor. Indeed, the fact seems now incontrovertible ; but, admitting it to be so, the practical utility of Revaccination has been questioned, on the grounds of want of proof, that revaccinated individuals are less susceptible of Small-pox, than those who have only once undergone the operation. And it is evident, that the argument for Revaccination, so far as it relies on the statistics referred to, assumes that the receptivity of the artificial, implies an equal receptivity of the natural disease, or in other words, that all persons in whom the secondary operation succeeds, would be liable to an attack of Small-pox, if casually exposed to the contagion. And it is expressly on this ground that the practice of Revaccination has been advocated by Wendt, Heim, and several other writers. But this assumption, although countenanced by the identity of the different forms of the disease, has not been satisfactorily demonstrated by a sufficient body of statistical data ; and ample proof will be required to establish for it the character of a law in the disease.

One mode of accounting for consecutive susceptibility of Cow-pock, rests on the assumption, that the effects of the primary operation on the system wear out by lapse of time ; and the statistics of the German physicians have been relied on, as the chief means of demonstrating this point. But too much stress, in this respect, appears to have been laid on the facts which they have brought forward; for, on referring to the details, it will be found, that in one-half of all the cases enumerated, the system was perfectly proof against the infection, and Revaccination entirely failed. It is farther very material to observe, that this resistance of the contagious lymph exhibited itself, not merely amongst those who had recently undergone the primary Vaccination, but indiscriminately amongst all the patients operated on, who had been previously affected at any time by the Cow-pock virus. If, therefore, it be an inherent tendency in the protection conferred by Vaccination to wear out of the system by process of time, it may be fairly asked, why one-half of all the individuals operated on, should be an exception to the general rule. With reference to the question we are discussing, it is also particularly worthy of remark, that as far as the observations both of the Wirtemberg and Hanoverian physicians extended, the effects of Revaccination very closely approached each other, whether practised on those who had been previously vaccinated, or on those who had suffered from a primary attack of Small-pox in the natural way. In either case, about one-half resisted the influence of the vaccine virus either partially, or altogether, whilst the other half displayed the usual effects of the operation. Hence, it would appear, that if the protective

influence of Cow-pock really becomes extinguished in process of time, the immunity afforded by the casual, and *a fortiori* by the inoculated Small-pox, is of an equally temporary nature, an inference closely bearing on the comparative merits of Variolous Inoculation, and Vaccination. On the whole, however, the progressive extinction of the protective influence of Cow-pock may be gravely questioned, and a more reasonable explanation of the success of the German Revaccinations, may be founded on the two following considerations: 1st. That, in a considerable number of the cases detailed, the primary operation, from various causes, had not duly affected the system at all; and 2dly. That, in a certain proportion of all individuals born, the most perfect impregnation with the variolo-vaccine infection, of which the constitution is susceptible, does not destroy the liability to be affected by the infection subsequently, more especially when directly introduced into the system, in a material form, by inoculation.

But the success of Revaccination is not the only argument advanced to show, that the effects of the primary operation gradually wear out of the system. Mr. Spooner and others, in proof of the same doctrine, assert, that the number and severity of the cases of secondary Small-pox, are increased in proportion to the length of time which has elapsed from Vaccination: and, if their belief were confirmed by a sufficient body of facts, the inference would be unquestionable; but there is no sufficient statistical information, relative to the recurrence of Small-pox in the civil portion of the community of these kingdoms, to determine the question; and the accurate military returns before referred to, point to conclusions very different from those of Mr. Spooner. So also do the reports of the Registrar-General; for in an ably-written article, published by Dr. Stark in the *Edinburgh Medical and Surgical Journal*,[1] the fact, that four-fifths of all the deaths caused by Small-pox in some of the largest cities and towns in Great Britain occur in the first five years of life, is shown from the most authentic documents. This seems to militate strongly against the belief, that the protecting effects of Cowpock wear out by lapse of time; for the period mentioned is precisely that in which the influence of Vaccination should be least impaired, and, consequently, in which the mortality of consecutive Small-pox should be lowest. But it has not only been alleged, that the protective influence wears out, but fixed periods, at which this is supposed to take place, have been defined.

According to Dr. Retzius of Stockholm, the protection remains undiminished from the close of the second to about the end of the thirteenth year, gradually losing its influence to the twenty-first year, after which period, the original liability to Small-pox recurs, and continues unimpaired to the age of forty years. Subsequently it approaches by degrees the limit of its existence, which it generally attains about the fiftieth year. Hence, his advice is to repeat the operation for Cow-pock, in about thirteen years.[2]

Wendt's opinion is, that the protecting power of a good Vaccination secures the system for a certain time, perhaps for six years, and he

[1] Vol. lxiv.

[2] Med.-Chir. Rev., July 1844.

admits also that a properly vaccinated person has always a milder form of the disease. As might be expected, he strongly recommends Revaccination ; but he adds, at the same time, that the precise period for this, cannot be accurately determined, but must vary with the susceptibility of each individual for the Small-pox. Heim goes still further, asserting, that in very few instances was Revaccination entirely without effect, when performed five or six years after the first operation ; whilst Spooner enlarges the period for successful Revaccination to fifteen or twenty years.

It is also a part of the evidence on this point, that where Revaccination does not produce any effect on the first trial, the operation should be repeated, as it will often succeed on a second attempt, although failing on the first. In proof of this, we may cite the statement of Schlesier, from which it appears that in about 14,000 unsuccessful cases, it succeeded in 1,569 on a second operation. According to Heim, the protective power of Revaccination extends to an equal time with the primary Vaccination, provided the success of the Revaccination be complete, and in no degree less perfect than the good Cow-pock of children ; and that the vaccine virus be in sufficient quantity to saturate the system. Hence, it would appear, that if we were to adopt the views of Heim, the proper periods for Revaccination would be about every sixth year, during the entire period of life. Gregory assigns a longer period for the duration of the protective influence, extending, at least, to the tenth year.

But, whatever may be the true explanation, the secondary occurrence of Small-pox, in a certain number of cases, cannot be questioned any more than the fact that Revaccination succeeds to a considerable extent, and the practice may, therefore, be recommended on sound principles. There is much evidence to show that, in point of safety, the revaccinated are placed in the better position ; and whether we subscribe to the theory of the progressive failure of the vaccine influence, or adopt the views, which in preference have just been advocated, it is impossible to say with certainty, in any given case, whether the system is truly protected or not. It may be added, that Revaccination is perfectly innocuous, and very rarely indeed productive of any serious results. In making this assertion, founded on the details of my own experience, I am aware, that in one case, related by Dr. Henry Kennedy, sloughing and alarming debility followed the operation ;[1] but such instances are too rare, in a proper condition of health, to weigh at all against the practice, which at worst can only be useless, and may be legitimately defended, if its only effect were to save a single life, in thousands of cases. Influenced by these considerations, I have for many years recommended, and frequently performed the secondary operation as a measure at least prudent, if not absolutely necessary, and as being in no degree incompatible with the doctrines of Jenner.

With reference to the periods at which Revaccination should be performed, it appears that the opinions of different observers are too discrepant, to enable us to deduce from them any general rule of prac-

[1] Dublin Quarterly Journal, 1846.

tice. Five, seven, ten, fifteen and twenty years have been respectively assigned as the limit of the protective influence; but, even granting that this limitation exists, it may reasonably be inferred, that the period at which the immunity becomes extinguished, varies with individual peculiarities of constitution. Were it, however, in the existing state of our information, considered eligible to revaccinate at stated periods, the more prudent plan would clearly be to adopt the shorter intervals. In my own practice, I have been guided rather by the wishes of patients and their friends, and the imminence of contagion, than by reference to the actual lapse of time. It is scarcely necessary to observe, that all the precautions respecting the choice of lymph, and the health of the patient, employed in the primary, are equally applicable to any consecutive Vaccination. And it may be further observed, that where Revaccination fails on a first attempt, the operation should be repeated, as it is impossible to decide, by a single trial, that the system is proof against the renewed application of the infection, as has been fully illustrated by the experience of Schlesier, to which we have already referred.

Such are the views, which after the most deliberate inquiry, and a reasonable share of practical acquaintance with the subject, I have been led to entertain, and to which I have considered it a duty to give currency; being deeply impressed with the conviction, that *the efficient and general practice of Vaccination, aided by Revaccination, under suitable circumstances, will be found an efficient safeguard against the ravages of Small-pox, in all constitutions not absolutely beyond the influence of any protecting agent whatever.* And in this age of sanitary reform, it is a fact not very creditable to the good sense or intelligence of mankind, that a large proportion of all the children born, remain, in most countries, unvaccinated through the entire period of their lives. It evidently, therefore, becomes the duty of every member of society to contribute, as far as is in his power, to remedy a state of things, alike dangerous to the individual and to the community; and each, in his degree, may contribute at least something to so desirable an end. As far as regards the legislature, it may be respectfully suggested, that a law to enforce universally the adoption of Vaccination might be justified on principles of the soundest policy; but, even without any positive enactment on the subject, it is within the power of all governments to extend the practice in a very great degree. The bare knowledge of the fact, that the subject was considered of importance by the various branches of the executive, would do much; and the object in view might be more fully accomplished, by bringing all the powers of both the common and statute law to bear against the practice of indiscriminate Variolous Inoculation, and by requiring proof of previous Vaccination, as a necessary condition to holding any situation or appointment, whatever, remunerated out of the public purse. Effectual means of enforcing the necessary regulations are evidently within the power of the directors of the army, navy, and East India Company, as well as the various police forces. The same may be said of the Customs and the Excise, and especially of the Poor Law Commissioners, and the

different boards of guardians throughout the realm, as the inmates of the poor-houses are mainly furnished from that class of the population, in which Vaccination is most likely to be performed carelessly, or neglected altogether. In private life, a great deal might be done to the same end, by the governors of hospitals and other charitable institutions, the masters of schools, the owners of merchant and emigrant vessels, and the proprietors of the great mills and manufactories of every description, throughout the country. The more intelligent classes of society, not content with having the operation performed in their own families, might materially promote the practice, by endeavouring to enlighten the ignorance, and overcome the obstinacy, still unhappily too prevalent amongst the uneducated, with reference to the subject. The benevolent offices of the ministers of religion might also be interposed with great effect; and tracts, couched in plain and forcible language, enforcing the practice of Vaccination as a Christian duty both to ourselves and others, if issued by the various societies for the promotion of knowledge, would, no doubt, be productive of the best results. Various other measures might be suggested; but what is especially required, is a full and universal recognition of the great practical importance of the subject; for if this be once attained, measures will speedily be found to carry out to completion the discovery of Jenner, which, even with the limitations imposed on it by our more extended knowledge, must always be looked on as one of the greatest blessings ever conferred on the human race.

Recapitulation. The most important practical deductions, suggested by a careful reconsideration of the whole subject, may be briefly embodied in the following recapitulation, which the writer begs leave earnestly to commend, with all due respect, to the consideration of his professional brethren. Should the views which he has advocated be found to contribute, in the slightest degree, to reassure the public confidence in the protective influence of Cow-pock, and to promote the more general and careful practice of Vaccination, his object will have been amply attained.

1. It appears to have been satisfactorily demonstrated, that secondary Vaccinations have succeeded in a considerable proportion of the cases, in which they have been resorted to.

2. It also appears, that Small-pox has prevailed of late years to an increased extent.

3. The results in question have been attributed, partly to a diminution of energy in the vaccine infection, caused by repeated transmission through the human subject, and partly to the alleged tendency of the immunity conferred by Cow-pock to wear out of the system, after an uncertain period from the date of Vaccination.

4. Both the success of Revaccination, and the increased prevalence of casual Small-pox, appear, however, to have been exaggerated in the popular belief; and, at any rate, the facts seem explicable, in a great measure, without resorting to the hypothesis just stated, by attributing them in part to the imperfect performance, or the entire neglect of Vaccination, in part to the temporary tendency to increased diffusion, at distant and uncertain periods of time, which characterizes all epi-

demic diseases, and, finally, to peculiarities of constitution, which render many individuals absolutely insusceptible of being protected against a secondary attack, either by Vaccination or by inoculated or natural Small-pox.

5. It has been proposed to re-introduce Variolous Inoculation as a certain remedy for the occasional failure of Vaccination, ; but the superior efficacy of the practice is not only questionable, but its indiscriminate employment has been proved to be dangerous, and destructive of human life, and is therefore highly to be deprecated.

6. Revaccination, however, may be prudently recommended, not only as innocuous in itself, but also, on various grounds, as positively advantageous, even by those who question the gradual extinction of the protective influence of Cow-pock.

7. It does not appear that genuine Vaccination has lost any of the efficacy, which at any time really appertained to it; and it still remains to be demonstrated that it is not capable of conferring, to the end of life, complete immunity from the horrors of Small-pox, on a large majority of all the individuals fully submitted to its influence.

8. Even where Vaccination fails to prevent a secondary attack, the consecutive disease, in general, assumes a mild and modified form, although, in some instances, it may be sufficiently severe to leave the countenance marked with scars, and still more rarely to terminate in death : but fatal cases from secondary Small-pox do not seem to be more frequent after Vaccination, than after a primary attack of the natural disease.

9. On the whole, it is respectfully maintained, that Cow-pock, imparted in the most efficient manner of which it is capable, by Vaccination, and, under certain circumstances, by Revaccination, is the most eligible safeguard, within our power, against Small-pox ; and that it will prove effectual in most constitutions, not inherently insusceptible of protection, by any means whatever.

Strangford, Ireland, October 1850.

P. S. Since the first part of this paper appeared in the November number, I regret to learn, on the best authority, that I have unintentionally fallen into an error regarding Dr. Gregory's views, in attributing to that distinguished physician (p. 1051) any change of opinion in consequence of the researches of Mr. Ceely. Dr. Gregory is still a believer in the non-identity of Cow-pock and Small-pox ; and I therefore take this, the earliest opportunity, of rectifying the mistake.

The reader is requested to correct the following

ERRATA.

Page 1042, lines 9 and 21, *for* British, *read* Provincial Medical and Surgical.

Page 1049, line 14, *omit the word* Retrovaccination.

Page 1050, line 5, *for* Cow-pock, *read* Small-pox.

BIBLIOGRAPHICAL RECORD.

Corpulence; or, Excess of Fat in the Human Body; its relations to Chemistry and Pathology, its bearings on other Diseases and the value of Human Life, and its Indications of Treatment. With an Appendix on Emaciation. By Thomas King Chambers, M.D., Fell. Roy. Coll. Phys., and Gulstonian Lecturer for 1850. pp. 166. London: 1850.

We have derived much pleasure from the perusal of this little work, which is conceived and executed in a right philosophical spirit; and though the Lectures of which it consists have already appeared in the pages of the *Lancet*, we conceive that it merits additional notice in this place.

Obesity, or *polysarcia*, is a true hypertrophy of the tela adiposa, an increased growth, without change in chemical or anatomical characters. In this it is in marked contrast with another condition, the *fatty degeneration*, which is rather an atrophy than a hypertrophy, the tissues of the affected organs being replaced by a substance lower in the scale of vitality. The microscopical characters of the fat in these two cases clearly indicate the fundamental distinctions. In obesity the fat is *vesicular;* in the fatty degeneration it is *molecular*. Each vesicle, in natural fat, is a perfect organ in itself, having a distinct wall, and being supplied on its exterior by capillary blood-vessels. The vesicles are round or oblong, but assume a polyhedral form from compression. "Mr. Paget has pointed out an interesting peculiarity of the fat vesicles, namely, that their contents, though fluid, do not pass by exosmosis through the membranous walls. This he ingeniously explains, by noticing that the membrane is moistened continually by the same fluid which all tissues imbibe from the blood-vessels—that is, water containing albumen and salts in solution. With this the oil has no disposition to mix, and thus each drop is imprisoned in a vesicle of impermeable tissue. During life, the oil-cells, by the attraction of their walls, constantly imbibe this watery fluid from the capillary vessels that surround them; and after death, if fat be kept in or near water, no oil transudes till the cells decompose. They retain their contents, on the same principle that an oil-silk bag holds water; the one is rendered water-proof by oil, and the other oil-proof by water. The fluid thus inclosed in an impermeable sac, being incompressible, is highly elastic, and diffuses pressure equally in all directions. It is similar, in fact, in its construction, to a water-pillow; and is similar in its use too, for, distributed about the sole of the foot and the nates, it enables us to stand or sit with easy comfort, without the fear of squeezing out the oil from the tissue. The membrane is supplied with this necessary watery fluid by the capillary blood-vessels, which ramify in great abundance among the vesicles, forming loops around each, and detaining the blood as long as possible in their vicinity. When the vesicles increase in number, these blood-vessels increase in number also, and appear capable of almost indefinite multiplication. How great must be the effect of this upon the circulation! If, for instance, a man of five feet two inches, whose healthy weight would be eight stones, increases to twenty-eight, no less than twenty stones of additional fat have to be supplied with capillaries, and those capillaries have to be supplied with blood by vessels constructed to circulate but one-third of the quantity. How wonderful must be the power of adaptation which can render such a change consistent with life at all! How little cause for surprise, if that life is short, and burdened with innumerable ills!" (p. 8.)

The uses of fat appear to be to act as padding, filling up angular cavities, and facilitating motion, to defend from external cold, and to form a store-house of carbon for the use of the lungs. It is derived directly from oleaginous articles of food, and indirectly from some other proximate principles, as the saccharine. But, for its formation, it is necessary that the materials be digested in a greater quantity than is sufficient to supply carbon to the

respiration. There has been much difference of opinion regarding the means by which the oily matters are taken up by the lacteals; but experiments performed by Dr. Chambers on rabbits seem to set the matter at rest, and to show that the pancreatic juice is the agent.

The desire for oleaginous food is not equally strong at all periods of life; children commonly dislike it; the taste appears to be acquired about the time of puberty, and in a more marked degree in females.

A certain amount of fat is necessary for the perfect well-being of the individual, while an excess is injurious. It is, therefore, of some moment to determine the best way of ascertaining this point. Dr. Chambers believes that the balance is the best test, seeing that its indications are chiefly modified by the quantity of fat, the bones and muscles having comparatively little influence. This is illustrated by several examples, for which we must refer to the original work, as well as for the tables showing the average weights in healthy subjects, in obese persons, and in phthisical patients.

Corpulence is in a very marked degree hereditary. From the tables constructed by Dr. Chambers, it appears, that the tendency was referable to their ancestors in twenty out of the thirty-eight cases quoted; in five more, it was to be seen in their collateral relations; in six only was it absent, the rest being doubtful or unknown. In insanity, 13 per cent. is the full proportion; in consumption, according to the First Report of the Brompton Hospital, 24½ per cent. Of the *exciting causes*, an acute attack of illness appears to be the most common. Accidental surgical injuries also frequently produce it; and so, too, good living, with moderate exercise and an easy mind.

"The most interesting way of illustrating the pathology of obesity, will be to detail the causes of death in a considerable number of cases of this affection. I have put together sixty-nine, of which the *post-mortem* records are thoroughly to be trusted, sixty-seven having been examined at St. George's Hospital, and two by Dr. Shearman, of Rotherham, a gentleman of well-known accuracy and research.

CAUSES OF DEATH IN SIXTY-NINE CORPULENT PERSONS.

Medical Cases.

Dropsy 13	Aneurism, 1; malignant disease, 1;
Apoplectic Coma 11	fever, 1; rupture of stomach, 1;
Pneumonia 5	polypus uteri, 1 5
Pleurisy (acute, 2; chronic, 1) ... 3	Erysipelas of face 1
Fainting (fatty atrophy of heart) 1	

Surgical Cases.

Peritonitis after hernia 8	Secondary abscess 3
Erysipelas after ulcers and slight	Nephritis after lithotripsy 1
wounds 3	Diseased prostate 1
Gangrena senilis 2	Accidents 10
Diffuse cellular inflammation ... 2	

"The heart was examined in fifty-seven of these patients. In seven it was found healthy—viz., in four who died from accidents, in one case of rupture of the stomach, one of hernia, and one of nephritis. In the latter case, the principal local collection of fat was about the kidneys, where the amount usually found was greatly augmented. In fifty of the fifty-seven cases where the heart was examined, it was found diseased. Of the fifty diseased hearts,

5 were hypertrophied and not dilated;	26 dilated only;
8 hypertrophied and dilated;	11 atrophied.

In sixteen of these, there was an increased amount of vesicular fat about the heart—viz.,

In 13 of those which were dilated;
In 2 of those which were atrophied;
In 1 of those hypertrophied and dilated.

"In fourteen instances, the kidneys were also affected with chronic degeneration, which, in all those, where an opportunity occurred of forming an opinion, seemed to be consecutive on the cardiac disease.

"A cursory glance over the facts recorded in these lists will be sufficient to show what a great influence over life the disorders of the circulating system have had. In the medical cases, the two classes which make up the bulk of the whole, may be referred entirely to this source; and in the surgical cases, nearly all are of a nature to be much aggravated by an ill-balanced distribution of blood.

"The change which most commonly affects the heart is dilatation, probably dependent on the greatly increased quantity of capillaries distributed throughout the body, and the consequent increase in the amount and pressure of the circulating fluid upon the central organ. The hypertrophy, which sometimes ensues, is not unlikely to be an effort of nature to supply force in proportion to the increased demand.

"In eleven cases out of the forty-nine, atrophy of the heart was observed, that is, diminution in the thickness of the walls, without any external augmentation of size; and in such of these cases as were submitted to the test of microscopic examination, a deposition of *molecular* fat, destruction of the nuclei, and other evidences of degenerated muscle, were found.

"We must be careful to distinguish this fatty atrophy, or degeneration, from deposition of *vesicular* fat; the first arises from deficient nutrition, the second is due to excess. One is a retrogression from a more highly endowed tissue to one less distinguished by its importance and offices; the other is an increased growth. It is true, they may be coincident, as in the instances before us of atrophied hearts in obese people; yea, they may exist together in the same organ, as in two of these cases, where there was much fat at the base of the great vessels and degenerated muscle at the same time. But still they are contrasted conditions, hypertrophy and atrophy of different tissues.

"It still remains to be explained, why these two opposite states are so often associated together; why degenerated muscle is more common in fat than in thin people, as would appear to be the case from a paper presented by Dr. Quain, a short time back, to the Medico-Chirurgical Society." (pp. 118-21.)

In regard to treatment, Dr. Chambers observes: "The first thing indicated in all cases is to cut off, as far as possible, the supply of materials. Fat, oil, butter, should be rigorously interdicted in the diet table. But all eatables contain some portion of oleaginous matter, and especially those most convenient to advise the use of for a lengthened period. And, as we observed at the former part of our review of the light which chemistry has thrown on the subject, almost all are capable of a transformation into fat, when a small quantity of this substance is previously present. It is desirable, therefore, that the mass of food should lie in the stomach as short a time as possible, in order that at least a fatty fermentation may not be set up in it. Very light meals should be taken, at times most favorable to rapid digestion, and should consist of substances easy of solution and assimilation. To this end, the time of the meals should be fixed for an early hour in the day, before exertion has rendered the power of the entrails languid and weak. Breakfast should consist of dry toast, or, what is still better, sea biscuit, and if much active exercise is intended, a small piece of lean meat. Dinner at one, on meat with the fat cut off, stale bread or biscuit, and some plain boiled macaroni, or biscuit pudding, by way of second course. . . . Liquids should be taken, not at the meal, but half an hour after, so as not to impede the action of the gastric juice upon the mass. Here should end the solid feeding for the day; no second dinner or supper should follow, nor, indeed, any more meals be taken sitting down. A piece of biscuit and a glass of water can be taken standing up, if faintness is experienced; a cup of gruel, or a roast apple, before going to bed. . . It is often advisable to add a small allowance of malt liquor at dinner, as otherwise the craving of the appetite is less easily appeased." Among medicines, the *liquor potassæ* stands preeminent. It should be given freely in milk, beginning with half a drachm, and raising the dose to a drachm or a drachm and a half, three times a day.

THE DISEASES OF THE BREAST AND THEIR TREATMENT. By JOHN BIRKETT, F.R.C.S., F.L.S., Assistant-Surgeon to Guy's Hospital. pp. 264. London: 1850.

There are few organs in the human body subject to a greater variety of diseases, than the female Breast, nor one in which it is of greater importance that a correct diagnosis should be made. Many, we fear, have been the cases in which the frightful operation of amputation of the breast has been performed, without the slightest real occasion; and numerous the instances in which *mastodynia* has been confounded with scirrhus, and the patients condemned for months to the mental agony of supposing they had the much dreaded cancer, when in truth they were the subjects of a harmless, though painful disease. It is the duty of every medical man to guard against the possibility of such an error; and the treatise before us will be a useful guide.

The subject is considered under the following heads:

I. The Diseases before Puberty.
II. The Diseases during the establishment of Puberty.
III. The Diseases after the establishment of Puberty.

The following are some of the points which are deserving of notice.

INFLAMMATION OF THE BREAST, or MAZOITIS, may be limited to the nipple or areola, the cutaneous and subcutaneous tissues, the lobes individually or collectively, and the uniting fibro-cellular tissue. It may be either intra-lobular, or inter-lobular, or both combined. To prevent inflammation of the nipple, it is recommended that, during pregnancy, as soon as it enlarges, it should be exposed to the air, washed with soap and water, and occasionally wetted with an astringent lotion. After birth, it is of consequence that the nipple be properly cleansed after each application to the infant's mouth. If fissures and abrasions take place, collodion is advised, as preferable to other applications.

In inflammation of the subcutaneous tissue of the nipple and areola, it is recommended that, if the gland be in an active state—*i. e.* the woman suckling—warmed, evaporating, or saturnine lotions be used in preference to cold, and the general health carefully attended to. If resolution do not seem likely to take place, fomentations and soothing poultices must be applied. If, in spite of these measures, pus should form, a free opening is to be made. The direction of the incision is of importance: it should always be made in the direction of radii passing from a centre which is formed by the nipple, since, as the ducts converge to this centre, the incisions will then be parallel to them, and there will be no risk of their division.

In true Mazoitis, the progress of the disease may often be arrested by antimonials, when they can be borne. When suppuration has taken place, a free opening should be made, but *pressure* on the part must be scrupulously avoided. At that time, too, a good diet is proper.

CYSTS occurring in the mamma are divided by Mr. BIRKETT into

1. Cysts depending upon dilatation and a morbid condition of the lactiferous ducts or acini.
2. Cysts produced by a peculiar action in the fibro-cellular envelope of the gland tissue, and the consequence of a morbid state of the function of nutrition.

Mr. Birkett, having very carefully investigated the subject of cysts, has arrived at conclusions differing from those entertained by Sir B. Brodie. He is of opinion, that the lactiferous ducts are liable to dilatations resembling cysts; that this morbid condition simulates more important diseases, but that there is no evidence to prove that the growth within the ducts has any character in common with either the cysto-sarcomatous or carcinomatous new formations, and that this morbid condition belongs to the class of non-contaminating diseases. The whole of the observations on cysts are well worthy of perusal.

That distressing affection, Mazodynia, is considered as it occurs without induration and with induration. The former generally occurs before the cessation of the catamenia, very often in early life, and is generally connected with some menstrual derangements, and excitability of the nervous system. The treatment ought to be directed first towards the alvine secretions, and afterwards tonics must be given. In patients who will bear the loss of blood, local depletion is of service: otherwise sedatives are indicated.

When accompanied with induration, Mazodynia is a more formidable disease, the pain being often very severe, and the breast exquisitely sensitive. The suffering from this disease is indeed very remarkable, and has often suggested to persons, not well acquainted with the pathology of the breast, the existence of serious disease; indeed, recourse has been had to excision, and to subcutaneous incisions throughout the gland; though we imagine that it would be very difficult to say why or wherefore, although a French surgeon has recommended it. It reminds us of the very *simple* proceeding recommended by another French surgeon for the cure of myopia—*merely* dividing the four recti muscles of the eye! which he moreover says he has done—more 's the pity! The remedial measures for the disease under consideration are those which have been mentioned as applicable to the first form, together with gentle pressure and sedatives. We have found great benefit from a combination of the extracts of belladonna and opium in equal parts, rubbed down with oil of almonds to the consistence of cream, and then applied under oiled silk or gutta percha sheeting.

The opinions of Mr. Birkett regarding operative proceedings in Cancer are judicious. During the *first* stage of development of a carcinomatous tumour, he believes its removal to be justifiable; but in the third and fourth stages, he condemns operations as inadmissible. We are perfectly satisfied, that when the disease is far advanced, it ought to be let alone, and merely soothed. If cut away, the object of prolongation of life will be defeated in ninety-nine cases out of a hundred.

In conclusion, we recommend Mr Birkett's volume as a perspicuous and useful contribution to medical literature.

Cholera: Its Causes, Symptoms, and Treatment, Considered and Explained. By J. P. Batchelder, M.D., of New York City. Pamphlet, pp. 45.

The Symptomatic Treatment of Asiatic Cholera. By Ewing Whittle, M.D., Lond., M.R.C.S., Honorary Surgeon to the Liverpool South Dispensary, and Surgeon to the Toxteth Park Cholera Hospital during the Epidemic of 1849. Pamphlet, pp. 100. London: 1850.

The Remedy of Epidemic Cholera, with Directions for Use, so Successfully Administered in Gateshead and its Vicinity, particularly in February last. By Joseph Bell. Pamphlet, pp. 12. Newcastle-upon-Tyne: 1849.

In looking over the pamphlet of Dr. Batchelder, which is fairly enough composed, we find nothing, some questionable physiological explanations excepted, which has not been said over and over again; although the author, from the beginning to the end of his treatise, makes no reference to the works of any other writer on Cholera. In a practical point of view, it is suggested by Dr. Batchelder, that the treatment of malignant Cholera was too active; or, as he not very elegantly expresses it,—"many of the patients were doctored too much; whereas the most judicious course, in many cases, would have been to stand still and let the patient get well if he could." The concluding part of this little *brochure*, written with considerable cogency, goes to prove that Cholera is neither a contagious nor an infectious disease.

The Treatise of Dr. Whittle, on the contrary, advocates the very converse

of the proposition just stated, on the subject of contagion. On the general question, we shall not offer any opinion here; but we think that Dr. Whittle entirely misses the mark, when he alleges that the dispute will be found to be one rather about words than facts.

Nor do we suppose, that there is any well-informed practitioner, who is not fully aware of the etymological distinction between contagion and infection; but the anti-contagionists, as they are termed, would equally object to Dr. Whittle's views, whether he should term Cholera an infectious or a contagious disease. "His conclusions on the subject," he informs us, "may be embodied in the following law,—namely, that Cholera is not so generally infectious as other epidemic fevers, but, when communicated by infection, engenders a very deadly form of disease." Dr. Whittle's law as to Cholera being infectious in any degree, cannot, even yet, be looked on as more than a questionable theory; whilst the allegation of its peculiar deadly nature when derived from infection, will certainly be set down as a mere vague assertion. A severe critic might, with some shew of reason, be disposed to question, whether the author has made himself master of the information necessary for reasoning on so abstruse a subject, when he finds him expressing the belief, as he actually does, without any qualification, "that it is scarcely possible for one, not previously infected, to be exposed to the infection of variola and to escape the disease," and "that there is no case *on record of any one being twice affected with Variola!*" (p. 95). Now there is scarcely a writer on the subject, who will not give Dr. Whittle more correct information on these points than he seems to possess, and very few physicians of any claim to experience, we apprehend, will be found, who have not met with cases of secondary small-pox. We are ourselves cognisant of more than one; and Dr. Whittle might, without any great research, have ascertained that Louis XV of France died of a second attack of small-pox, and that Dr. Baron refers to more than a hundred writers who have seen secondary small-pox. On examining the cases brought forward by the author, in favour of contagion, or infection, call it whatever he may, we find that they are perfectly explicable on other grounds; and, even on the supposition that the doctrine in question be true, his cases will add little to strengthen it. The experience of the writer, however, in the Epidemic of 1849 was ample; and, having practically found the value of blood-letting, his principal object in laying his views before the profession is, we are informed, to advocate the superiority of that remedy over every other mode of treatment, and to point out the true indications for its employment. For these indications, and the cases brought forward in favour of venesection, we must refer to the work itself, which is written in an agreeable style, and will amply repay the perusal, as Dr. Whittle is evidently a reflective, discriminating, and judicious practitioner.

The insignificant Treatise of Joseph Bell, is only worthy of notice for the purpose of denouncing it as a mere puff, equally redolent of ignorance and effrontery, and evidently published for the sole purpose of promoting the sale of the author's drugs. Whether this judgment be too severe, let the reader say, after reading the following extracts from his pamphlet. We shall only premise, that Colchicum is the remedy principally recommended,—and that we are gravely informed, that "a remedy is a medicine that in general cures."

"Reasons for Publishing this Remedy, etc. Being in earnest in this matter, and seeing that this dread pestilence was devastating the human family; and being quite incapable of adequately, to the exigency of the occasion, administering this medicine, from the range of the disease, the doubts of the public, (seeing that remedy after remedy had failed, after being sanguinarily announced for the cure of Cholera),—I made application to various parties to obtain attention to this remedy in vain; and seeing that the disease still prevails, and will prevail, and that in all probability it will break out from time to time in paroxisms (*sic*) before it finally leaves this island and Europe; and also thinking, if this treatment be a remedy for Cholera, it is too great a thing to make a household god of—a thing that so mightily concerns the

public, that they should have it; and again, should it be no remedy, however limited the range of its administration, the consequences are too serious to allow of any trifling;—then, on those grounds, I publish this—(the pioneer of a more laboured work).

"The frame is paralized (*sic*) by the intensity of the cause of this disease, I would therefore suggest STRYCHNIA in such cases (which is chiefly used in paralysis) combined with colchicum. In the state of collapse it has been advantageously given.

"It ought to be impressively remembered, colchicum, to have its virtues in perfection, must be gathered at a certain season, which is mentioned in the *Pharmacopœ* (*sic*) and must be properly preserved. Perhaps this objection lies not against veratria, which combined with an unknown acid constitutes the active principle of colchicum.

"Not that I presume it will raise the dead, which some at first may be considered as being, from the severity of the attack, some actually perishing as if struck by lightening (*sic*)—all I mean is, *amongst admitted remedies this remedy will maintain its stand.*

"*That consequently Epidemic Cholera is now a Curable Disease.*

"*The Press, I respectfully solicit to lend its aid in spreading this remedy; which, to be done safely, should be done wholly, giving both the reason, remedy, and result, as stated here. J. B.—June* 7, 1849."

Surely this is enough.

PRACTICAL SUGGESTIONS FOR THE PREVENTION OF CONSUMPTION. By G. CALVERT HOLLAND, M.D., etc. pp. 143. London: 1850.

The mental condition of an allopathico-homœopathico-globulist is a subject for the moralist and the psychologist, rather than for the medical reviewer. To others, therefore, we must leave for the future, Dr. G. CALVERT HOLLAND, lately physician to the Hospital of Sheffield, and now physician to the Homœopathic Hospital of London. We have already told our readers what London globulism is, when (p. 849-50) we noticed two books by Dr. Holland, on Consumption, one of which was dedicated to Dr. Frederick Foster Quin. We now simply announce, that we have here before us a THIRD book on Consumption, in which homœopathy, globules, and Dr. Quin, are ignored, and some of the rational methods of treatment recommended; and that the book is prefaced by a magniloquent dedication to Sir James Clark, who, we hope, is sensible of the honour which has thus been conferred upon him. This exhibition of hardihood and folly on the part of Dr. Holland, confirms our former statement, that "homœopathy, as a system of medical practice, is almost extinct; the name and the globules being retained, chiefly as topics of discourse, and sectarian insignia—insignia of no mean value to those who can adroitly display them."

THE ACCOMMODATION OF THE EYE TO DISTANCES. By WM. CLAY WALLACE, M.D. pp. 36. New York: 1850.

DR. CLAY WALLACE was one of the first of the living anatomists who adopted the view of Porterfield, and some of the older investigators, respecting the muscularity of the Corpus Ciliare, and the effect produced thereby on the Adaptation of the Eye to Distances. The pamphlet before us appears to be a reprint of his former papers; but we are somewhat surprised that no allusion is made to the investigations which have been made in this country on the same subject. The absence of such information detracts from the value of the pamphlet, for the views which it promulgates have been known and recognized for three years at least. Dr. Wallace is, however, deserving of approbation for the talent with which he pursued his inquiries on this interesting subject.

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

PRACTICE OF MEDICINE AND PATHOLOGY.

REPORT OF THE CATHERINE HOSPITAL, AT STUTTGART, ON THE DISEASES OF CHILDREN.

The *Journal für Kinderkrankheiten*, for July and August 1850, has the following extracts from Dr. Elsaesser's Report on the Diseases of Newborn Children in the Lying-in Department of the Catherine Hospital at Stuttgart, from 1st July 1848, to 30th June 1849. This article may be considered as a continuation of the Report, of which we gave a translation at p. 494 of this Journal for May 1850.

Sclerosis of the Skin. Several feeble premature children were affected with this disease, and thereby entirely prevented from sucking. The failure of the vital powers was accompanied by intestinal catarrh, and in one case by pemphigus; the parts of the skin, not affected by Sclerosis, were yellow, and cool; convulsions and syncope followed. The following were the *post-mortem* appearances. The skin, which during life was red and hot, was very firm and resistent, but still pitted on strong pressure; the depressions, however, gradually disappeared. The cutis was of normal thickness and consistence, but the deeper layers were somewhat injected; and this appearance was sometimes more marked in the subcutaneous areolar tissue. The latter was infiltrated with a glutinous matter, partly sanguineo-serous, partly sero-albuminous, which flowed out on section. The subcutaneous fat appeared among this infiltration, partly in the form of dark-yellow isolated grains of the size of mustard-seeds, partly as yellowish granular streaks. The neighbouring muscles were also pale, being infiltrated with serum. In one case, the venæ saphenæ, lying in the infiltrated areolar tissue, had their walls thickened, and contained a little fluid blood. In two cases, the brain, with its membranes, sinuses, and plexuses, shewed traces of hyperæmia. In two others, there was anæmia of the brain and its membranes; and, in one of these, the cerebral substance was unusually firm, and the ventricles contained some serous fluid. The lungs, in one case, were bloodless, and very emphysematous; in two, they were in a state of atelectasis. In another instance, the lower border of the upper lobe of the left lung was adherent posteriorly to the costal pleura, and contained an abscess as large as a hazel-nut, surrounded by an area of inflammation; there were also two other abscesses in the same lobe. The upper lobe of the right lung was in a state of partial atelectasis, and also contained abscesses. The heart, in several cases, was filled with dark blood, and in one instance contained a fibrinous clot. The liver, and large abdominal vessels, generally contained much blood; but in one case the liver was anæmic. The spleen was large, dark-red, and friable; the intestinal mucous membrane, in two cases, had a catarrhal appearance, being swollen, injected, and presenting slate-grey and brownish spots, with enlargement of Peyer's patches and of the follicles. The kidneys contained a deposit of uric acid in two instances.

Congestion of the Brain occurred in six cases. In one instance it followed extraction by the forceps, and was accompanied by heat of the whole body, and convulsions of the muscles of the face and limbs; there was also a peculiar croupy cough, yet unattended by any obvious change in the organs of respiration. The child recovered perfectly under the use of leeches, and of calomel and magnesia.

Trismus occurred in one case. A mature male child, who had been healthy until the eighth day, was seized with slight ophthalmia, and acidity of the stomach; but improved under the use of antacids. It was suddenly attacked, after a change of nurse, with frequent paroxysms of Trismus; for which baths and opium were used, but the child died on the following day. The vertebral sinus was found remarkably vascular, especially in the cervical and lumbar regions; there was some yellowish serous fluid between the spinal dura mater and the periosteum. The spinal dura mater was remarkably vascular, and somewhat dull; the pia mater was very hyperæmic, and the cord rather soft. The skull, brain, and cerebral membranes, were strongly injected; the plexuses moderately so; the thyroid body was large. The right venticle of the heart contained a fibrinous coagulum, and the left a dark one. The right lung was slightly fœtal, and the left mostly so. The liver and kidneys were hyperæmiated; the umbilical arteries were thickened, and their cellular membrane injected.

Congenital Hydrocephalus: Absence of Cranial Bones. A male child died half an hour after being extracted by the forceps. The head was double the normal size, fluctuating, and without bony substance: the eyes were staring; the mouth wide. In the neck, there was a fold of skin like a double chin; the child was chicken-breasted; the abdomen was large, and the testicles had not descended; the limbs were crooked; the anus open; and the skin leathery. The bony cranium was wanting: the dura mater lay immediately beneath the skin. Only on the temples was there a thin osseous deposit: the dura mater presented spots of ecchymosis: the cerebral membranes were much hyperæmiated and softened, with some bloody serum between them. The brain was of normal consistence, but vascular; the ventricles were much distended with serum; the plexuses were very vascular; the base of the skull was thinly ossified, but only as high as the external auditory meatus. The spinal column was healthy; the canal contained some sanguineous fluid; the cord and its membranes were hyperæmiated, but not softened. Both lungs were for the most part fœtal; the heart lay obliquely, and its right ventricle was very broad. The liver was very large; the stomach lay perpendicularly. The right kidney contained four, and the left five calices. The thigh and leg were ossified only in points: there were no connected ossified masses in the right arm, nor any distinct formation of joints.

Sanguineous Apoplexy. A mature female child enjoyed perfect health for six days after birth. At the end of this time it had green stools, refused the breast, cried much, and was drowsy. Antacids, baths, and clysters were employed. Convulsions of the limbs and emaciation set in. Towards the ninth day after birth, there was spasmodic breathing, frothing at the mouth, etc. Stimulants produced some improvement: but leeches to the back of the head were of still greater benefit. Tetanic contractions of the jaw and limbs soon supervened; and death occurred on the tenth day. On *post-mortem* examination, the cerebral membranes were found to be very vascular; at the base of the skull, on the dura mater, there was an extravasated mass of the size of a bean. The brain was very vascular, with a tendency to capillary apoplexy; the plexus was much congested. The heart, especially the right ventricle, was very full of blood. The membranes of the spinal cord were somewhat hyperæmic: and, at the lower part, there was a clot of the size of a bean. The cord was moderately vascular.

A premature male child died half an hour after birth. Delivery had been normal: but the mother was suffering from typhus fever. There was an abundance of dark red matter extravasated on the dura mater of the brain, as well as on the pia mater at the summit of the hemispheres, and in both ventricles. The plexus was moderately red. There was also extravasation at the base of the brain, especially at the optic commissure; the cerebral substance was very vascular; the lungs were mostly fœtal; and the kidneys were lobed.

Serous Apoplexy. The subject was a healthy mature male child, who had been delivered by turning. On the second day, there was some shortness of breathing, and mucous rattles. There were several paroxysms, with interval of freedom; in one of the attacks the child became pale, and mucus flowed from the nose. It died on the third day. The meninges, especially on the cerebellum, were much injected; there was no extravasation. The substance of the cerebellum was more vascular than that of the cerebrum; the plexuses and sinuses were congested. There was a yellow gelatinous matter effused between the arachnoid and pia mater, especially on the upper surface of the brain. The air-passages contained an abundance of mucus. The lungs were permeated by air throughout: here and there, there were extravasations of blood. The heart was small, and empty; the kidneys contained uric acid.

Inflammation of the Eye. Ophthalmia appeared in 29 males out of 162, and in 40 females out of 168; the greatest number of cases was in July, the least in April. In most cases, the disease appeared between the second and fourth days after birth. It was congenital in four cases. The affection was mild in 51 instances, but severe in 18 cases, of which three terminated in blindness from perforation of the cornea and prolapse of the iris; one in the left eye, one in the right, and one in both eyes. The constitution of the children exerted no marked influence on their liability to become attacked, for thin and weakly children were seized as easily as the well-nourished and strong: but the latter class shewed a somewhat greater tendency to this affection. In a child born of a syphilitic mother, ophthalmia appeared in only a moderate degree.

Pneumonia. A mature normally formed child had from birth mucous rattling and some dyspnœa; it had also hyperæmia of the brain, with drowsiness, and want of appetite. On the third day, there was dull stroke-sound and bronchial respiration, over a space two fingers broad, at the posterior and inferior part of the right side of the chest; the dyspnœa increased; the countenance was livid, then pale. Death occurred on the fifth day. At the *post-mortem* examination, the skull was found very vascular; the brain and its membranes pale. On the left side of the cerebellum, between the membranes, there was an extravasation. The bronchial tubes contained rusty mucus: but their mucous membrane was healthy. There was a quantity of watery exudation in the pericardium. The liver was hyperæmiated; the large intestine strongly contracted; the urinary bladder was distended to the size of a hen's egg, without evident difficulty of evacuating the urine. The upper lobe of the right lung was mostly condensed: the middle one was normal: and the lower one was condensed for two-thirds of its extent. The upper lobe of the left lung was healthy; but the posterior part of the lower lobe was condensed. The hepatisation of the right lung was lobular, of the left more lobular; on the left side, blood escaped on pressure; on the right, there were also grey patches, from which a grey fluid escaped on pressure. The hepatisation in the upper lobes was reddish grey.

Softening of the Stomach occurred in a male and in a female child. Both children at first sucked eagerly; but, in consequence of the illness of the mother, one had to be artificially fed, and was seized with aphthæ, vomiting, green stools, and drowsiness. The other child became ill without any evident cause; it had convulsions, bowing of the head backwards, scanty green evacuations, and vomiting on the last day. In both there was rapid emaciation, and collapse: death occurred on the tenth day. In the female child, an extravasation was found between the skull and dura mater, in the vicinity of the right temporal bone: the sinus was filled with blood and coagulated fibrin. There was some blood extravasated in the arachnoid on the left side of the cerebellum; the substance of the latter was softened, of a brownish-red colour; the base of the brain was vascular. The lungs were rose-coloured, emphysematous, and very large. The right ventricle of

the heart contained a large quantity of dark blood. The intestines, especially the stomach, were much swollen ; and at the base of the latter there was a portion so much softened, that it was easily torn : the mucous membrane could be easily stripped off ; the softened parts had a blue-red appearance. The rest of the intestines were swollen, but healthy. In the male child, the meninges, especially the arachnoid, and the cerebral substance, were very vascular ; the plexus was congested, of a dark-red colour. The heart contained much blood, partly fluid, partly coagulated. There was uric acid in the kidneys. The base of the stomach was lacerated on being taken hold of ; it contained coagulated cheesy masses. The parts surrounding the softened portions showed no trace of inflammatory reaction : the softened mucous membrane was of a rusty-brown colour, and easily stripped off. The œsophagus and duodenum were healthy. The lungs were anæmic, and studded with spots of atelectasis.

Diarrhœa and Vomiting occurred in one male and four female children ; four of the cases were fatal. Death took place in two on the 17th day, in one on the 14th, and in the other on the 10th day. The preceding circumstances were, inflammation of the eyes in one case, artificial feeding in two, congenital debility in one ; in the fifth, there was nothing remarkable. The symptoms were those commonly observed ; but the prognosis was frequently rendered more unfavourable by the refusal of the children to take food. The evacuations were sometimes green, sometimes almost colourless, thin and watery. In one case, the vomited matters had a fæcal odour. The treatment consisted at first in antacids ; then in *mistura oleosa* with opium, clysters of starch, friction of the abdomen with oil of henbane and of camomile ; and lastly, musk was given as a remedy for impending collapse. On *post-mortem* examination, the stomach and intestines were found healthy in two cases ; in one case, the mucous membrane of the stomach was easily removed. In the fourth case, the stomach and intestines were much distended, but the jejunum was thin, and vermiform ; from between it and the duodenum there arose a cellular band, which reached to the pelvis—a product of intra-uterine peritonitis. In the remaining intestines, nothing remarkable was observed. The liver was very vascular in two cases. In one case, the right kidney contained more blood than the left ; in one, the bladder was distended to the size of a walnut. The lungs were in two cases in a fœtal state, in one much congested ; one case presented interstitial emphysema of the lungs, which were otherwise healthy. The heart was generally very full of blood. In three cases, the brain and its membranes presented extreme vascularity, almost amounting, in two instances, to capillary apoplexy.

Debility. Under this head, twenty deaths are recorded, being not much less than half the fatal cases among the new-born children. Although the term "debility" (*Lebensschwäche*) is indefinite, yet it is characteristic ; for no especial sign of disease can be observed beyond a general failure of the vital powers. They were either apparently dead, or in a condition very similar. The symptoms worthy of especial note were the following. In one case, there was stertor and short breathing, with some vomiting and convulsions. Another child was vigorous immediately after birth, and the symptoms of vital debility first appeared at the end of six hours. In a third case there were vomiting and petechiæ ; in a fourth, ophthalmia. Five other cases presented peculiar symptoms. (*a*) A premature female child, which at first sucked with vigour, and appeared to thrive excellently, was seized with icterus and aphthæ, suddenly refused the breast on the eleventh day, became weak, wasted, and died on the twelfth day. (*b*) A prematurely born female child, at first thriving, had aphthæ, acidity of the stomach, and icterus, and refused the breast. Artificial nourishment was employed : the child had green evacuations, and died on the tenth day. (*c*) A premature male child, who shewed no symptom of disease until the ninth day, suddenly refused the

breast, cried much, had distortion of the eyes and convulsions, and died on the tenth day. (*d*) A premature male child was vigorous during the first days, but was then attacked with aphthæ, green evacuations, emaciation, and drowsiness, and died on the thirteenth day. (*e*) A mature male child, with intense icterus, cried much, had numerous green evacuations, became emaciated, had aphthæ, and died on the fifteenth day.

The following is an abstract of the *post-mortem* appearances in twelve cases. The brain, or its membranes, were vascular in six cases: in one, there was also an extravasation between the skin of the skull and the pericranium, and gelatinous exudation over the whole upper surface of the brain, with œdema of that organ. In another of these cases, there was hyperæmia, with extravasation in the pia mater and ventricles: there was farther observed to be serum in the ventricles, and extravasations on the base of the skull. In the other six cases, the brain had no abnormal appearance. In the whole twelve cases, the lungs were more or less fœtal. The heart, in six cases, contained coagula; here and there it was empty of blood. Nothing remarkable was observable in the abdominal viscera. In all these cases, atelectasis of the lungs was present; and in half, there was hyperæmia of the cranial viscera. From this, we may pretty surely infer the connexion of atelectasis with the occurrence of the symptoms of vital debility soon after birth. On the other hand, the hyperæmia of the brain appears to be neither a necessary cause nor effect of the atelectasis. The effusion of serum in the ventricles, with extravasation of blood, observed in some of these cases, might perhaps have been adequate causes of the debility.

The following case presented some very interesting appearances. A mature female child died half an hour after birth. The general integument was soft and doughy; the abdomen much distended, the neck swollen, the face livid, the lips thick and blue, and froth issued from the mouth. Between the skin of the head and the pericranium, there was a considerable effusion of blood with serum. The pericranium on both temporal bones, as well as the dura mater and arachnoid, were very strongly injected; and there was a sero-gelatinous exudation on the upper surface of the brain, between the arachnoid and the pia mater. The brain was œdematous and soft; the lateral ventricles were distended with serum. The subcutaneous areolar tissue over the whole body was infiltrated with serum; the adipose corpuscles were remarkably distinct and prominent, as in sclerosis. There was a quantity of yellowish serum in the pleural and peritoneal cavities; the lungs were small and fœtal, and weighed little more than four and a half drachms. The pericardium contained a normal quantity of serum. The ductus arteriosus was perfectly closed, as was also the foramen ovale. The ductus venosus was still pervious. The liver and kidneys were hyperæmiated; the spleen dark-red and friable. It can scarcely be doubted, that the general dropsy, observed in this case, was due to the closure of the fœtal passages, and consequent change in the course of the circulation, even during intra-uterine life.

Although, from what has been observed, atelectasis cannot be considered as the cause of debility, it nevertheless is instrumental in producing death, as the imperfectly oxygenised blood is unfit for life, especially for that of the brain.

Of fifteen children who died of debility, two were delivered by the forceps and by turning. In the remaining thirteen cases, the duration of labour was from 11 to 14 hours in four; from 2 to 6 hours in three; from 24 to 72 hours in the other six. This seems to show, that a very rapid as well as a tedious labour is unfavourable to the child. As to the condition of development, it was observed, that in twenty-five deaths from debility, two only occurred in mature children. This was between one-ninth and one-tenth of the total number of deaths (19) in children born at the full period: while, among the deaths in the prematurely born children, those from debility were thirteen in twenty-four, or 54 per cent., being above one-half. The propor-

tion to the number of births was as follows : deaths among the nature children, 1 in 137 ; among the prematurely-born, 13 in 38 ; so that rather more than one-third of all the prematurely-born children died of debility. Most died from the first to the third day after birth ; and most in the winter months.

The following were the *post-mortem appearances* in five cases, which have been above referred to as presenting symptoms not peculiar to debility.

(*a*) The lungs were very pale, grey-red, nowhere fœtal, containing a frothy, pale-red, sanguineo-serous fluid. Small extravasations of air, of the size of peas, were scattered over their surface. Microscopic examination showed, that these did not arise from rupture, but from resorption of the septa ; the cavities had portions of septa projecting in their interior.

(*b*) The umbilical arteries were thickened, and filled with pus. There was some croupy exudation on the hard palate and tongue : the mucous membrane of the stomach was reddened in spots : there was slight swelling and hyperæmia of Peyer's glands. The liver was friable, and contained a moderate quantity of blood. The lungs presented spots of atelectasis, and were somewhat œdematous. The superficial veins of the spinal cord and brain were full of blood. The abdominal and thoracic serous cavities contained some sanguineo-serous fluid.

(*c*) The lungs were anæmic, dry, and contained air ; the heart and liver full of blood. The cranial contents were somewhat vascular.

(*d*) The brain was very dry ; the mammary glands atrophied ; both lungs contained air ; the intestines were contracted, but the transverse colon was much distended.

(*e*) All the organs were yellow throughout. The liver was flabby, small, and void of blood ; the spleen very large ; the kidneys anæmic ; and the mammary glands very small. The lungs were superficially hyperæmic ; and presented small ecchymoses. The heart and large vessels were full of thin fluid blood, which, under the microscope, appeared yellow at the edges and violet-coloured at the centre, and exhibited numerous lymph-globules. The cerebral vessels contained much blood. The lateral ventricles contained coagula, surrounded by a yellow layer of exudation. The brain was very soft, and had coagula on its surface : there was also blood effused from the vascular membrane of the spinal cord. In this case, there was cholæmia from impediment to the removal of the bile from the blood.

Atelectasis of the Lungs. From forty-three children who died, five are to be deducted ; viz., four who were not examined after death : and one who died of pneumonia, and in whom it could not be distinguished whether the lungs were fœtal, or not. Thirty-eight cases then remain : in fifteen of these,—five premature, and ten mature children,—the lungs were perfectly permeated by air ; and in twenty-three,—eight mature, and fifteen premature,—they were more or less fœtal. Hence prematurely-born children have twice as much disposition to Atelectasis as those which are born at the full term.

Death was directly caused by atelectasis, under symptoms of debility, in two mature, and ten immature children, generally in the first half of the first week. In eleven others,—six mature, and five premature,—atelectasis seems to have been only a predisposing cause of disease, and death was directly produced by other diseases ; viz., sclerosis, erysipelas, infantile cholera, softening of the stomach, trismus, hydrocephalus, and apoplexy. With regard to the extent of the atelectasis in twenty-three cases, the lungs were perfectly fœtal in two cases, so that the child could only have lived a short time : in seven cases, there was partial atelectasis, fœtal spots being scattered over a greater or less extent of the interior of the lungs. The surface of the lungs contained more or less air in two cases. The anterior borders, the apices, and the anterior and superior portions, contained air ; while the remaining parts were fœtal in eleven cases. In one case, only a part of the upper lobe was fœtal. In four cases, the left lung was less fœtal than the right : and in one, the right lung presented less atelectasis than the left.

State of the Lungs. In the cases of Atelectasis, the lungs were several times rather soft and œdematous, but more frequently anæmic, pale, flabby, with an excess of blood in the large vessels, and here and there in a state of putrefaction, with development of gases, but in other cases presenting emphysema of the parts where respiration had taken place. In one case, there were five abscesses in the two lungs: in another, the tissue had undergone intra-uterine hepatisation. Of the fifteen cases in which the lungs had been perfectly permeated by air, they were congested in two; anæmic, pale, and dry, in four; emphysematous, in parts much so, with extravasation of air, in four cases.

State of the Fœtal Passages. (*a*) The *ductus arteriosus* was, in one case, found morbidly closed immediately after birth. It was usually open (nine cases) in the first week; but sometimes then contained a coagulum of fibrin. The fibrinous coagulum generally appeared from the seventh to the fourteenth day; the canal was then still partly opened, but narrowed; in four cases, it was imperfectly obstructed by a membranous septum. In the third week, it was much narrowed in three cases, and only permitted a fine sound to pass: in one case, it was entirely closed. In one instance, it was found open towards the end of the fourth week. (*b*) The *foramen ovale* was, in one case, found closed immediately after birth. It was generally (in seven cases) open during the first and second weeks: in three cases, it was entirely closed towards the end of the second week: in one case, it was open at this period. (*c*) The *ductus venosus* was open till towards the end of the second week, in eight cases; closed, more or less firmly, at the fourteenth or sixteenth day, in four cases; in one instance, it was firmly closed on the sixth day.

REDTENBACHER ON THE URINE IN PNEUMONIA.

In the year 1846, Dr. W. Redtenbacher commenced a series of observations on the Urine, with the view of determining, 1. In what relation the inorganic salts—chlorides, sulphates, and phosphates—stand with regard to the specific gravity of the Urine? and 2. Whether any intimate connexion can be detected between the increase or decrease in the quantity of salts, and the increase or diminution of certain diseases. The results of his observations are published in the *Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien*, for August 1850.

1. The quantity of inorganic salts is not subject to great variations, so that they do not exercise any great influence on the specific gravity of the urine; it is the organic constituents—urea and uric acid—which chiefly affect its density. Urine of high specific gravity may contain a small quantity of inorganic salts, while a tolerably large amount may exist in urine of low specific gravity.

2. The quantity of chlorides in the urine has a direct relation to the intensity of the inflammation, in cases of pneumonia. When the urine of a healthy person is treated with nitrate of silver, after being acidulated with nitric acid, the copious precipitate of chloride of silver shews the presence of a considerable quantity of chlorides. If the urine of a patient labouring under pneumonia be examined, a normal quantity of chlorides will be found at first: this gradually diminishes as the inflammation advances, until, when hepatisation is perfect, the chlorides entirely disappear, so that nitrate of silver does not even produce a cloudiness after long standing. When the inflammation, or rather the hepatisation, again recedes, the chlorides re-appear, and continue to increase as the disease advances towards cure. This diminution and re-appearance of the chlorides in pneumonia has been constantly observed by Dr. Redtenbacher, in upwards of eighty cases; and further, the smallest quantity of chlorides always accompanied the most intense inflammation, and the rapidity or slowness of their decrease or increase was in constant relation to the rapid or slow course of the disease. The re-appear-

ance of the chlorides constantly accompanied the retrogression of the inflammation ; their presence in the urine, indeed, often preceded the signs furnished by percussion in denoting incipient recovery.

It is true that, in typhus, acute rheumatism, and capillary bronchitis, the chlorides are diminished in quantity: but this decrease is not constant, nor does it appear at any certain period of the disease. In tuberculous infiltration, the chlorides are present in normal quantity, but diminish for a short time under a fresh addition of infiltration.

It might be objected, that the chlorides in the urine are chiefly dependent on the culinary salt taken with the food : but if this objection were of any force, they would be diminished in all diseases in which less food is taken ; which is not the case. Besides, one-half of the patients with pneumonia had, throughout the whole course of the disease, drink acidulated with hydrochloric acid given to them : yet the same phenomena were manifested, and there were no chlorides in the urine when the disease was at its height.

It must hence be concluded, that the removal of the chlorides from the urine during the course of pneumonia belongs essentially to the disease, and that they must be disposed of in some other manner.

ENEMATA OF ETHER IN RHEUMATISM AND NEURALGIA.

It has been ascertained by M. Pirogoff, that the injection of the vapour of Ether into the rectum produces complete anæsthetic effects ; and M. Marc Dupuy has found, that the same is the case when fluid Ether is injected, either pure, or mixed with an equal quantity of water. M. Gaussail relates two cases, which shew the beneficial results of this proceeding, when it is desired merely to obtain the calmative and antispasmodic effects of the Ether.

Case I. A lady, aged 45, subject to nervous and rheumatic affections, had for some days suffered from temporal neuralgia, of a continuous remittent type. A sedative epithem, and antispasmodic medicines, produced slight ease. The neuralgia was soon replaced by violent and continued pains in the sciatic nerve, which prevented the patient from walking or sitting. After trying various remedies for two days without any result, M. Gaussail prescribed an enema, containing four grammes of Ether in one hundred grammes of water. In the evening, the patient was perfectly free from pain ; the absorption of the ether was manifested about half an hour after its administration, by its peculiar colour, and by a kind of pleasant suppleness and heat in all the limbs. The enema had been retained without producing any inconvenience ; and a hæmorrhoidal flux, to which the patient was subject, re-appeared in a few hours. She passed a good night ; on the following and subsequent days, there was no return of pain in the thighs ; and, although there were still wandering pains in other parts of the body, the patient might be said to be cured of the neuralgia.

Case II. A yound lady, of delicate constitution, had been affected for some time with general rheumatism. M. Gaussail prescribed, for a very severe pain in the præcordial region, an injection with six grammes of Ether. This had not the effect of calming the pain.

Remarks. It is chiefly in wandering neuralgic and rheumatic pains in hysterical females, that enemata of Ether, and still better of chloroform, are likely to prove beneficial. In hysteria in particular, where it is often difficult to make the patients swallow medicines, enemata of Ether or chloroform often remove the most intense spasmodic symptoms, as if by enchantment. The proportionally greater activity of chloroform renders more care necessary in its administration : twenty or thirty drops in one hundred and twenty grammes (thirty drachms) of fluid, generally produce the desired effect. [Abridged from *Bulletin Général de Thérapeutique*, 1849, vol. xxxvii, p. 139 ; as quoted from *Journ. de Méd. de Toulouse*, and *Journ. des Conn. Méd.-Chir.*, July 1849.]

TARTARIZED ANTIMONY IN INSANITY.

In the *Annales Médico-Psychologiques* (July 1850), the following abstract is given of Dr. Flemming's views, as contained in the *Allgemeine Zeitschrift für Psychiatrie*. The author examines in this article the action of Tartarized Antimony in the treatment of Mental Diseases. This action varies as the medicine is administered in large or in fractional doses. In a large dose, it has been seen to cut short instantaneously a fit of insanity; and the patient, after a certain period of torpor, has almost lost the recollection of his excitement. But, to produce this effect, the medicine ought not to produce vomiting. When the emetic is given in fractional doses, it produces nausea, and exercises a kind of indirect sedative effect, in consequence of the modifications which result from it in the functional condition of the digestive organs. The editors of the *Annales Médico-Psychologiques* add to the observations of Dr. Flemming, that the administration of the drug requires certain precautions, which cannot be neglected without producing the most serious results. There are, say they, patients who appear to bear the tartarized antimony perfectly well, and there are some on whom the medicine appears to have no effect; the excitement continues, and there are neither stools nor vomiting; all of a sudden, the excitement is calmed, a colliquative diarrhœa is established, and there is exhibited as severe a degree of poisoning, as if there had been given at once the whole of the successive doses administered on several days. This fact ought to attract the attention of practitioners, because the same is the case with other medicines. This may be explained in two modes; either the medicine is accumulated in some degree in the stomach, where it does not act till it reaches a certain dose, or its action is latent, and the last dose is no longer tolerated like the preceding ones, by reason of the modifications which have supervened in the sensibility of the internal organs.

PARALYSIS OF THE FACIAL NERVE IN A CHILD.

In a clinical lecture on the case of a child, two and a half years old, admitted into the hospital at Berlin with Paralysis of the right Facial Nerve, which had appeared six days previously, without any obvious cause, Professor Romberg made the following remarks.

Paralysis of the Facial Nerve is not so readily detected in children as in adults: in the latter, the want of symmetry in the two sides of the face is very evident; in the former, it is only shewn during crying, etc. The smoothness of the forehead in children also tends to prevent the Paralysis from being observed. On looking at the child when quiet, nothing remarkable was seen: but when it was made to cry, the mouth was drawn to the left side, and the right eye was not closed. According to the parents, this eye was nearly closed in sleep. This shewed that the Paralysis had not yet become entire: in perfect Paralysis, the eye remains open even during sleep. Professor Romberg called attention to the influence of sleep on convulsive and paralytic affections. In patients, in whom contraction of the flexor muscles accompanied paralysis of the extensors, the former had been observed to be relaxed during sleep. In sleep, the brain exercises a different influence over the various parts of the nervous system: hence arises the changed position of the eye in sleep, and hence also occurs the closing of the eye, which, when the person is awake, is kept open by the oculo-motor nerve, acting through the levator palpebræ, while, during sleep, the latter is relaxed, and the Facial Nerve only acts through the orbicularis palpebrarum. The collapse of the ala nasi is not so evident in children as in grown persons; only when they sneeze can it be observed, that the peculiar movement which accompanies this effort is wanting on the paralysed side.

In determining the seat of the Paralysis, the first thing to be considered was the state of the temporal bone. There was nothing which denoted this

to be the seat of the affection: the child heard equally well with both ears, there had been no otorrhœa, and the uvula was perfectly normal If the cause of the Paralysis had been situated in the neighbourhood of the internal auditory meatus, the auditory nerve could not have escaped. It is not easy to ascertain whether hearing be impaired at this age; but the best information is gained from holding a loudly ticking watch to the ear, while the other is closed, and watching carefully the motions of the countenance. The cause could scarcely have been an exudation, or tumour, causing compression at the base of the brain; for here some of the neighbouring nerves must have been also affected; nor was it likely that there was local softening of the paralysed nerve; nor could a purely central origin be reasonably assigned, as this would be likely to affect only portions of the nerve. The only remaining seat of disease, then, was the face. Swelling of the glands, or compression by cicatrices, at the stylo-mastoid foramen, were not present in this case. The Paralysis appeared suddenly, when the child was lying on the floor of a room, with its head on a pillow. Hence a mechanical cause was very improbable; and it seemed most likely that this case had a rheumatic origin.

The short duration of the disease, and its peripheral nature, allowed of a favourable prognosis; although it could not be certainly stated that the child would soon recover. Professor Romberg had sometimes seen such cases recover spontaneously, after he had left off giving medicine for some weeks. As the other symptoms of rheumatism, swelling of the face, sweats, fever, and urinary sediments, were absent, general antiphlogistic treatment was not indicated, especially as the rheumatic nature of the affection could not be asserted with absolute certainty. (*Journal für Kinderkrankheiten*, July and August 1850; quoted from *Deutsche Klinik*, 22nd June 1850.)

M. MARTIN-SOLON ON THE PREPARATIONS OF MALE FERN, AS REMEDIES FOR TAPE-WORM.

M. Martin-Solon, in a paper on the various remedies for Tape-Worm, in the *Bulletin Général de Thérapeutique*, vol. xxxviii, p. 299, observes that, if the high price and scarcity of kousso sometimes render recourse to the Male Fern necessary, the powder of the rapidly dried fresh root should be used. Forty or fifty grammes (℥x to ℥xiii) should be given during the morning, in divided doses, and a purgative of castor-oil should be administered directly after. The oil of Male Fern, if well prepared, and mixed in quantities of two grammes, with enough powder of fern, or mucilage, to make ten boluses, which are taken in the morning, at intervals of an hour between each, is usually efficacious; it kills the tænia, and often expels it immediately. The same effects result from the extract prepared from the tincture of the buds of the same plants, which is much used at Geneva, and which M. Debout says that he has used with success. He prescribes six grammes, to be taken in three doses, enveloped in unfermented bread, and given at intervals of an hour. It is sometimes necessary to follow the administration of these preparations by a dose of castor-oil in the afternoon. In this respect, kousso has an advantage over the preparations of Male Fern.

COMBINATION OF AUSCULTATION WITH PERCUSSION.

Dr. Roger has called attention to a process, first pointed out by Laennec, in which Percussion and Auscultation are combined. A solid cylinder of cedar-wood is used for Auscultation, while a person well versed in Percussion practises it round the stethoscope, and in the entire extent of the region to be explored. In this manner, we can not only determine the limits of an organ, as of the heart, liver, spleen, or veins, but also those of the cavity which contains any of them.

This process, though possessing incontestable advantages, is opposed by two

serious inconveniences. The first is, the dexterity required to enable us to appreciate the result. M. Roger was six weeks in acquiring this power. The other objection is, the difficulty of introducing into private practice, especially in the country, a process which requires the aid of a second person. The method, however, would be valuable in cases of difficult diagnosis, and in which great precision is required in determining the therapeutic indications. [Abridged from *Bulletin de Thérapeutique*, 1850, vol. xxxviii, p. 475, as quoted from *Comptes-rendus de la Soc. Méd. des Hôpitaux*, April 1850.

SURGERY.

POLYPOUS EXCRESCENCES FROM UMBILICUS IN NEW-BORN CHILDREN.

To the extensive category of affections of the umbilicus, Dr. Farrege has added another, of comparatively small importance, but worthy of the attention of practitioners, on account of the anxiety which it may cause to the mothers. We refer to small polypous excrescences, developed between the furrows of the umbilical fossa. The following case is an example.

In August 1848, a female child, three weeks old, was brought to Dr. Farrége. The mother had observed a red body at the umbilicus, which she attributed to misarrangement of the cord by the midwife. The latter examined the child, but was unable to discover anything, because the body, hidden among the folds of the fossa, only projected when the child cried. On turning aside the edges of the umbilical fossa, M. Farrége discovered an excrescence, of the size of a large pea, red and granulated, and bleeding easily when touched. A ligature was passed round the base, which was pedunculated, and the excrescence fell off on the third day. The wound was touched with nitrate of silver, and the disease did not re-appear. In another similar case, Dr. Farrége excised the pedicle of the tumour by means of scissors curved on the flat surface, and cauterised the wound. To recognise the existence of the disease at the commencement, it is requisite to make a very close examination, taking care to separate the lips of the umbilical fossa, which, in very young children, lie very close to each other. The treatment is very simple, consisting in excision or ligature, followed by cauterisation. [*Révue Méd.-Chir.*, as quoted in *Bulletin Général de Thérapeutique*, 1849, t. xxxvi, p. 42.]

RUPTURE OF THE CRUCIAL LIGAMENT OF THE KNEE-JOINT.

Dr. Stark relates, in the *Edinburgh Medical and Surgical Journal* for October 1850, two instances of an injury, which he believes to have been Rupture of the Crucial Ligament of the Knee-joint. The symptoms, nearly identical in both cases, were the following. There was no dislocation either of the ankle or of the knee-joint; no displacement of the knee-pan; no rupture of the tendo Achillis, or of any of the tendons round the knee-joint. The motions of the ankle, and, when the patient was sitting, of the knee-joint, in so far as its ordinary motions were concerned, appeared perfect. In one case, when the patient assumed the erect posture, the knee-joint was found to be preternaturally moveable; and, whenever any weight was endeavoured to be thrown on the right leg, the knee fell against the left leg, *and bent with equal facility forwards or backwards.* When the legs were extended, the slightest pressure on the patella caused the foot to be thrown upwards, *and the leg could be bent forwards on the thigh to a certain extent.* No pain was complained of in the knee-joint, but only a sensation of weariness; and there was no redness, nor swelling, nor effusion of blood.

Dr. Stark made several trials on the first patient, to ascertain the accuracy of the diagnosis. When the knee was bound tightly with a handkerchief, and kept slightly bent, the patient could almost bear the weight of the body on it; but the moment he endeavoured to straighten the limb, *the knee ben*

backwards under him, and he fell to the ground unless supported. The lateral motion of the tibia on the thigh-bone, though freer than usual, was yet so very limited, that there was no reason to conclude that the lateral ligaments were injured.

The treatment consisted in fixing the limb in a nearly straight position,—just so slightly bent as to allow the flexors of the leg to have a slight advantage over the strong extensors attached to the patella. A strong flat steel spring, fourteen inches long, with a slight curvature, was softly padded, and bound to the back of the knee-joint, half of its length projecting down the back of the leg, half extending along the back of the thigh. The foot and leg, to above the knee, were then bandaged moderately tight. The injury was ultimately recovered from in both cases ; but the knees remained weak, and the patients had to use support for a considerable period. In one case it was five months, in the other three months and a week, before the use of crutches could be dispensed with.

Dr. Stark thinks these cases interesting from their rarity, and from their proving that the injury in question may be perfectly recovered from. He infers, that cure must have been finally effected by a reunion taking place between the ends of the ruptured crucial ligaments.

COTTON-WADDING AS AN APPLICATION TO BED-SORES AND VARICOSE ULCERS.

In the treatment of wounds and ulcers, one great indication is to protect the parts from exposure to the air. Adhesive plasters, and especially collodion, often serve this purpose, but are inapplicable where a large extent of surface is exposed. In these cases, we believe the application of Cotton-wadding to be an effectual means of fulfilling the indication. Mr. ROBERT JONES, of Conway (*Lancet*, Sept. 27, 1850), relates the case of a girl, aged 16, who had been suffering from typhus fever, and who had an extensive sloughing sore of the nates, with profuse and offensive discharge. Wine and bark were prescribed, and broth and beef-tea were given. Mr. Jones applied some Cotton-wadding to the part, with the view of giving her a soft cushion to lie upon, as well as to absorb the abundant discharge. After the application, she appeared much relieved. On examination, three days after, the parts covering the spine and the crest of the ilium were granulating, the slough covering them had partially separated, and the parts beneath were looking very well. Mr. Jones has also treated successfully a few cases of varicose ulcers of the lower extremities, by the application of Cotton-wadding. The manner of applying it is simply to cover the ulcer, and to dress the patient every second or third day, a roller being applied over the cotton. Perfect quietness, and keeping the limb in the horizontal position, are enjoined; and three weeks or a month are generally sufficient for a cure.

INJURY OF CRANIUM, AND WOUND OF THE BRAIN IN A NEW-BORN CHILD : RECOVERY.

In July 1839, Dr. LAGAE was called to a woman, aged 34, who had been in labour forty-eight hours. Unsuccessful attempts had already been made to extract the child by the forceps, and subsequently by Smellie's perforator and a blunt hook. Dr. Lagae found it necessary to perform the Cæsarean operation. The infant was very weak, and scarcely uttered a few moans. It had a very extensive wound of the cranium, a little to the right of the sagittal suture, and a few lines in front of the posterior fontanelle. The brain was exposed, and seemed reduced to a state resembling soup mixed with blood: a small quantity of cerebral substance had escaped through the wound, and, for several days, portions continued to be removed by suppuration, in a state of detritus. The treatment consisted in the application of compresses dipped in cold water ; and the child recovered. The mother was restored to health in a few weeks.

Nine months after, Dr. Lagae exhibited the child to the Medical Society at Roulers. The deficiency in the cranium was then of the size of a two-franc piece, or even less. Even remembering the tendency which the cranium possesses in young children to repair losses of its substance, it must be admitted, that the loss was much more considerable at the time of birth. It is also worthy of remark, that the child appeared to be as intelligent as other children of the same age. (Abridged from *Bulletin Général de Thérapeutique*, 1849, t. xxxvii, p. 92.)

CONGENITAL PROTRUSION OF THE INTESTINES: OPERATION.

Dr. W. M. Fairbrother relates the following case in the *Lancet* for July 20th, 1850. Upon the birth of a child, on the 29th of last June, a large portion of intestine, about twenty-eight inches in length, was found protruding from the navel, dark and discoloured. It had evidently been out of place for many days. On my next visit, the bowels had acted, but were more protruded, with a considerable portion of the mesentery. Dr. Fairbrother made a careful and limited incision downwards in the median line, and, with considerable trouble, reduced the intestine, and applied sutures and a compress. The child, however, died the same evening, with all the symptoms of strangulated hernia.

DIAGNOSIS AND TREATMENT OF POLYPUS OF THE RECTUM IN CHILDREN.

In children, as in adults, Polypi are situated on a more or less elevated part of the intestine. When they are near the anal orifice they are easily detected, by becoming protruded at each stool; and they may give rise to the supposition that there is a prolapse of the gut. When more deeply seated, a Polypus is less easily detected. M. Guersant insists on the importance, as a sign diagnostic, of a furrow in the fœcal matters evacuated. Its mechanism is too simple to require explanation.

In the treatment, the Polypus is drawn beyond the anus, by means of the finger introduced into the rectum. When the pedicle is very narrow, the tumour may be replaced, as it is not long in falling off; but when the pedicle is larger, a ligature is applied to the base, and the tumour is excised, leaving the ligatured portion. M. Guersaut has never seen troublesome hæmorrhage; but, if it should occur, it could be easily treated by plugging the rectum, or, still better, by the introduction of small pieces of ice, if it can be procured. (*Bulletin Général de Thérapeutique*, 1849, t. xxxvi, p. 230.)

OCCLUSION OF THE VAGINA, THE RESULT OF VAGINITIS FOLLOWING MEASLES: OPERATION.

Mr. Fergusson recently had occasion to operate in a case of this kind. (*Lancet*, 23 Nov. 1850, p. 578.) A similar accident might occur in Vaginitis following the other exanthemata (*vide* London Journal of Medicine, Sep 1850, p. 869); but only, of course, when there has been extreme neglect.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Special Meeting, Tuesday, October 29, 1850.

Dr. Addison, President, in the Chair.

The following resolutions were brought forward by the Council, and, after discussion, unanimously adopted by the Society.

Society Property. 1st. That the Trustees of the Society be authorised and empowered to sell £600 Stock, to meet the expenses consequent upon the completion of the lease and the repairs of the premises, as authorised by two General Meetings of the Society, held on May 1st, 1849, and July 11th, 1850. 2nd. That the front drawing-room be appropriated to the general uses of the Society, and that the Evening Conversaziones and the Meetings of the Council take place there. 3rd. That the Council be empowered to let the stables, and such portion of the premises as may not be required for the purposes of the Society.

Referees. The following alteration in the bye-laws, chapter xiii, section 6, relating to the Council, was also recommended by the Council, and adopted by the Society, "That the number of Referees be increased from twenty-four to thirty-six."

Tuesday, November 12, 1850.

Dr. Addison, President, in the Chair.

Successful Case of Ovariotomy. By W. E. Duffin, Esq.; with a Description of the Sac, by Robert Lee, M.D., F.R.S. A woman, aged 38, in good general health, with her abdomen enlarged to the size of the eighth month of pregnancy, (this size having been attained in seven or eight months), applied to Mr. Duffin for relief by operation. The rapid growth of the tumour, which appeared to be connected with the left ovary, had been accompanied by neuralgic pains in the right thigh, in consequence of pressure on the sciatic nerve of that side. The tumour was very moveable, indicating the absence of adhesions. The patient was very urgent in her desire for the operation, which was performed, on the 27th August, by Mr. Duffin, assisted by Professor Fergusson, and Messrs. Ure, and Henry Smith. The incision, at first only sufficient to admit the fore-finger for exploration, afterwards enlarged to three inches, was made in the linea alba, midway between the umbilicus and the pubes. The absence of adhesions having been ascertained, the sac was punctured by a trocar, and one hundred and thirty ounces of a viscid, ropy fluid, of a light brown colour, were evacuated. The collapsed cyst (containing a smaller cyst, of the size of an orange) was drawn through the incision, and its pedicle secured by ligatures. The tumour was then separated; and the pedicle and ligatures were prevented from receding into the cavity of the abdomen, by other ligatures attaching them to the wound. The ligatures came away on the fifteenth day. On the twenty-second day, the wound had healed; and the abdomen had resumed its natural shape and size. The patient was kept on a light diet; for six successive nights, after the operation, she took opium; and her bowels were opened by enemata. Her recovery was complete; and she had resumed her occupation of a dressmaker.

Dr. Lee found that the walls of the cyst contained all the elementary structures which enter into the composition of the healthy human ovary; peritoneum, stroma, Graafian vesicles, blood-vessels, and ganglionic nerves.

Analysis of one hundred and eight Cases of Ovariotomy which have occurred in Great Britain; being all the Cases of which the Author could obtain sufficiently ample details. By Robert Lee, M.D., F.R.S. In thirty-seven cases, either no ovarian cyst, or tumour to remove, existed, or there were present ovarian cysts and tumours, the removal of which was found to be impracticable. Of these thirty-seven cases, fourteen were fatal. Of the seventy-one cases, in which ovarian cysts and tumours were removed, twenty-four proved fatal; in fourteen of which, the operation could not be completed. It appeared, that of the one hundred and eight cases analysed by Dr. Lee, forty-five were reported by Dr. Clay, and eleven by Mr. Lane.

Mr. Cæsar Hawkins complained that a gentleman present (Dr. Frederick Bird) had not made his experience of Ovariotomy available to the profession.

Dr. Frederick Bird was surprised to find that his cases were not included in Dr. Lee's analysis. He had certainly declined to give Dr. Lee the details of his cases, as he was going to publish them himself: but he had furnished Dr. Lee with the results; having, by letter, stated that he had extirpated ovarian tumours twelve times; eight times successfully, and four times unsuccessfully.

Dr. Lee replied, that he could not, in consistency with the plan and object of his paper, make any use of the bare facts intimated to him by Dr. F. Bird. Not only were the details of the twelve cases withheld, but no information was given of cases in which it was known that Dr. Bird, after making incisions in the abdomen, had abandoned the operation.

Dr. F. Bird had made in very many cases—perhaps in forty or fifty cases—small exploratory incisions. This was quite safe, and none of his patients had died from this method of diagnosis having been resorted to.

Dr. Lee. In one case so explored by Dr. Bird in the Free Hospital, he had heard that death ensued.

Dr. F. Bird. In that case, Ovariotomy was never contemplated. A small incision was made previous to tapping.

Mr. B. Phillips eloquently denounced the practice, now, he said, so common, of surgeons publishing only their successful cases. No man is bound to publish his experience; but if he publish his successful experience, he cannot honestly keep back his unsuccessful cases. *The truth* means *the whole truth*. Judged by the information brought forward in Dr. Lee's paper, we find that the abdomen has been laid open many times, when there was no tumour in it: that the operation has been performed in this country seventy-one times, and that forty-seven patients have recovered. And from Dr. F. Bird's statement it is made evident, that so difficult, so valueless is the diagnosis, that he has commenced the operation, that is to say,—that he has made an exploratory incision into the abdomen—forty or fifty times, without being able to proceed with the operation.[1]

Mr. I. B. Brown explained his operation. (*Vide* p. 1189.)

Mr. Lawrence spoke at considerable length against Ovariotomy. He was not more friendly to Mr. Brown's method of cure, which he had long since seen tried with unfavourable results. How could it be otherwise? Ovariotomy, with all its dangers, has the merit of extirpating the disease; but the plan of making an excretory duct—an "oviduct" as the gentlemen called it—proved hazardous by lighting up inflammation in the great

[1] In the *Lancet* of the 23rd November 1850, p. 592, Dr. Bird has modified his statement by reference to his notes. He says—"I have extirpated large ovarian tumours in thirteen cases, of which number nine were successful, four unsuccessful: in one case the tumour could not be extirpated, and the patient sank. In eighteen other cases, I have made small incisions, as a means of diagnosis or relief, and in no case did a bad result ensue from such incisions, leaving a total of thirty-two cases, in the treatment or investigation of which the abdominal cavity had been incised".

mass, covered by peritoneum, and in immediate contact with the abdominal viscera.[1]

MEDICAL SOCIETY OF LONDON.

November 2, 1850.

J. Risdon Bennett, M.D., President, in the Chair.

On the Health of London, during the period from 30th March to 28th September 1850. By John Webster, M.D., F.R.S. [This paper is published as an original article at page 1115, in the present number.] The discussion was adjourned.

November 9, 1850.

J. Risdon Bennett, M.D., President, in the Chair.

Adjourned discussion on Dr. Webster's paper. Dr. C. J. Hare was desirous of correcting some statements made by Dr. Webster, with reference to the mortality in the metropolitan hospitals. Dr. Webster had stated that the beds in University College Hospital amounted to only 106, whereas the real number was 122. Besides, the number of beds in a hospital was no criterion of the number occupied. On March 31, 1850, the Royal Free Hospital, which was reported as containing 140 beds, had only 52 in-patients; King's College Hospital, stated to have 120 beds, had 96 in-patients; and University College Hospital, said to have 106 beds, had 113 in-patients. At a later period, the latter institution had contained 122 inmates. Even supposing that the number of beds, or even of admissions, had been correctly given, no inferences could be drawn therefrom as to the relative mortality; and some very different results from those in Dr. Webster's table might be obtained, by comparing the number of deaths with the average number of patients in each hospital.

Dr. Sibson remarked, that the previous condition of the patients, the nature of their diseases, the situation of the hospital, and other circum-

[1] There can be no doubt of the general truth of Mr. Lawrence's remarks; but it has yet to be seen that they apply so forcibly, as he supposes, to Mr. Brown's operation. One of that gentleman's cases undoubtedly recovered from the operation, without having had dangerous intra-abdominal inflammation: and we cannot help thinking that, by farther experience, the operation may be so modified as to prove a valuable practical improvement. We must say, however, that we fear ovarian tumours are far too often interfered with: and that, upon the whole, the greater prevalence of operative interference with them in later years has *increased* their mortality. The analysis of cases by Dr. Lee is an important contribution to science; and confirms the conclusions of a reviewer in the *Edinburgh Monthly Journal* for January 1844 and May 1845. When a case is reported as "cured" by Ovariotomy, a long period must have elapsed before we can declare the result to be really successful. On this point, a speaker at the Edinburgh Medico-Chirurgical Society (17 Dec. 1845) made the following remarks: "For a special reason which does not apply to other operations, the statistics of Ovariotomy are comparatively valueless. In such an operation as Ovariotomy, *the very reparative process* becomes an imminent and inevitable source of peril, and had, he believed, in cases the latter history of which was known only by rumour, been the ultimate cause of death. To repair the extensive cutting of the ovariotomist, nature must pour forth in abundance coagulable lymph; and every one knows that in all situations in which lymph is thrown out, it exerts an inherent tendency to the most powerful contraction". Referring to eighty-nine cases then before the profession, the same speaker concluded by stating three objections to Ovariotomy. 1. The difficulty of diagnosis. 2. The non-fatal character of ovarian tumours. 3. The immense and inevitable dangers of the reparative process. *Edinburgh Monthly Journal*, January 1846, p. 53—67. The report of this discussion on Ovariotomy embraces an elaborate speech by Dr. Simpson, which, as well as the remarks of other speakers, will well repay perusal. Editors.

stances, were necessary to be known, before a right conclusion as to the relative mortality of a hospital could be arrived at.

Dr. Webster had used every means to make his statistics accurate, but should be happy to have any of them corrected. He had obtained the number of beds at University College, and several other hospitals, from the medical officer of those institutions. The discussion clearly indicated the advantage of having regular statements from all the metropolitan hospitals.

Dislocation of the Distal Extremity of the Great Toe. Mr. Coulson exhibited two specimens of this dislocation, in different degrees of intensity. The internal lateral ligaments in both cases were thin, and spread out over the projecting coridyles. In the joints, the cartilages were beginning to be absorbed on the part of the metatarsal bone, from which the phalanx had been dislocated. Mr. Coulson believed that the wearing of shoes had nothing to do with this deformity. The cause was to be found in the muscular and ligamentous apparatus connected with the sole of the foot, for the purpose of strengthening the anterior part of the metatarsal region. The muscular forces acting on the great toe, and on its metatarsal bone, are not the same. The long tendons have a tendency to carry the toes outwards; but the oblique abductor and the transversus pedis, and even the flexor brevis pollicis, seem to draw the metatarsal bone outward, especially at its distal extremity. When, from various causes, the transverse and oblique muscles lose their energy, the distal extremity of the metatarsal bone of the great toe is no longer held in proximity to the others; the foot spreads; the inner condyle projects inwards; and the phalanges of the great toe, being acted on by the long flexor and extensors, are carried outwards.

On the Treatment of Ovarian Dropsy by the formation of an Artificial Oviduct. By Mr. I. B. Brown. Mr. Brown brought before the notice of the Society his lateral operation for Ovarian Dropsy, of which an account was given at p. 202 of the London Journal of Medicine for February 1850. Instead of making two incisions, at right angles to each other, he now found one sufficient. He related three cases on which he had operated. The first patient died a month after the operation, chiefly from disease of the heart; which had been diagnosed during life. The second patient apparently recovered, and was able to attend to her household duties, and to walk out; but was attacked, in four months, with vomiting, paralysis, and coma, apparently from renal disease, and died. In the third case, that of a multilocular cyst, the patient died a month after the operation. In the second and third cases, purulent matter was found in the ovaries, or cysts, on post-mortem examination.

At the conclusion of his paper, Mr. Brown gave the following practical deductions:—

1. Pressure was applicable as a remedy in certain cases of Ovarian Dropsy; for example, where the disease was unilocular, without adhesions, and the fluid contents of the cyst were clear and not albuminous, and when time and the general condition of the patient, did not contra-indicate this proceeding.

2. Pressure would relieve and retard ovarian disease, even when it was multilocular, and adhesions exist.

3. Where pressure had failed, or was contra-indicated, and the cyst, or cysts, were without adhesions, extirpation was a remedy which might be adopted; but, before doing so, except in rare cases, pressure should have a trial.

4. Where the extent and character of the adhesions forbad extirpation, and pressure had failed, or was inapplicable, the lateral operation afforded a ready and promising means of cure.

5. This mode of operating was attended with but slight danger, besides being easy of execution. In support of his position, that the danger was

small, Mr. Brown stated, that, in the many operations in which he had had occasion to cut through the peritoneum, no untoward result had followed.

Mr. Hird and Dr. Tilt opposed the practice advocated by Mr. Brown.

Dr. Pettigrew and Mr. Nunn spoke in favour of the operation.

Dr. Murphy complained of the unsatisfactory nature of the statistics of ovarian operations. What was the principle on which Mr. Brown's operation was founded? He would, if interference were demanded, give the preference to pressure, over ovariotomy.

November 16, 1850.

J. Risdon Bennett, President, M.D. in the Chair.

Mercurial Treatment of Syphilitic Eruptions. By Mr. Hunt. The following were the propositions which Mr. Hunt supported:—1. Mercury is capable of curing, or aggravating, Syphilitic Eruptions, according to the mode in which it is administered. 2. Syphilitic Eruptions do not get permanently well without Mercury.

November 23, 1850.

J. Risdon Bennett, M.D., President, in the Chair.

On Subcutaneous Bursæ. By Mr. Coulson. After making some preliminary remarks, and detailing the situations in which Subcutaneous Bursæ are found, Mr. Coulson made some observations on the enlargement to which they are subject. The treatment which he recommended, in preference to all other methods, was puncture with a grooved needle, followed by pressure. This plan he considered generally applicable, and very successful. There was, indeed, a tendency to accumulation in some cases; but this could be overcome by perseverance. [This paper will appear as an original article in our January number.]

SURGICAL SOCIETY OF IRELAND.

April 28, 1850.

Andrew Ellis, Esq., in the Chair.

Aneurism of the Heart. By J. Tufnell, Esq. Case. The patient was a fine young man, aged 21, who had enjoyed uninterrupted good health until three years since. He had afterwards, in succession, chancres, suppurative bubo, acute pneumonia, hepatitis, and subsequently severe rheumatism, the serous coverings of the organs being considerably affected. The rheumatic attack took place in the autumn of 1848, and was followed by a relapse in two months, the pericardium being each time engaged. Calomel and opium were resorted to upon both occasions, the lancet not being used. He was apparently in perfect health in February of the present year.

Towards the latter end of this month, Mr. Tufnell saw him in consultation, for a painful affection of the lower end of the right femur, consequent upon a process of bone which interfered with the use of the joint. The integuments on the outer side of the lower third of the thigh were swollen and tender, and were protruded directly outwards by a hard pointed tumour, evidently a process of bone, which stood out from the condyloid ridge between the vastus externus and biceps muscles, so as materially to interfere with the action of the hamstring tendon. It was resolved to remove the growth; but, the integuments over the tumour being much thickened and inflamed, it was deemed desirable that the patient should rest for some days; and as he could not then do so, the operation was deferred.

He remained in apparent health until the middle of March, when, about seven o'clock one morning, whilst dressing, he said that he felt indescribably weak, so much so that he was certain he was going to die. Subsequently, however, he ate his breakfast, and seemed to forget his forebodings; but at half-past nine, he fainted and fell to the ground. He was insensible when taken to bed, the hands and extremities cold, the face deadly pale. This

state continued for some time; but by means of external warmth and ammonia, heat was gradually restored, reaction ensued, and he seemed considerably revived. Soon, however, the dyspnœa became excessive, the patient calling continually for air, and begging to have the *weight removed off his heart.* He died at half-past 4 P.M.

Post-mortem Examination 30 Hours after Death. The body presented the appearance of a very finely made muscular man, the skin of a natural colour, neither livid nor unusually pale: no trace of œdema in the lower extremities. The contents of the cranium were healthy, and the brain showing an ordinary number of vessels upon its substance being cut across.

The pericardium was enormously distended with black venous blood, which was found partly coagulated, and partly fluid. Through the midst, projected an aneurismal tumour, its apex pointing obliquely outwards to the left side; and, upon removing the contents of the pericardium by a stream of water from a syringe, the aneurism was seen to arise from the left side of the anterior surface of the base of the left ventricle. Proceeding a short distance vertically upwards, it assumed a semicircular form, passing obliquely backwards, overlapping to a certain degree the auricle of that side, and compressing the auricular appendage, which lay beneath it shrivelled and curled up. From the anterior surface of this sac, projected an additional pouch, its cavity appearing capable of holding a marble, whilst the larger one would easily contain an egg. The sac was densely firm and *entire throughout*, not exhibiting the minutest opening for the escape of the blood. Round the circumference of the tumour ran the coronary vein, nodulated and enlarged, presenting the appearance of a succession of pile-like tumours. At this point the coagula were intimately attached, and here there was a discoloured spot, where the vein must have burst. The heart was enlarged, and more than ordinarily covered with fat. The visceral pericardium, at its apex, was united by strong bands to the reflected portion; both appeared to have been the subjects of inflammatory action. On removing the heart, the lining membrane, and the whole of the valves on the right side, were natural in every respect. On the left side, the endocardium was healthy, as well as the mitral and aortic valves; but, opposite to the opening of the aorta in the ventricle, above and in front of the right segment of the mitral valve (but not in any way interfering with its action), was the mouth of the Aneurism, perfectly circular in form, and capable of admitting the point of the forefinger, and surrounded by a fibrous ring, apparently developed from the endocardium alone. The sac itself appeared to be formed of this membrane and the pericardium. the muscular structure being almost altogether absorbed. On the superior surface of the sac, the reflected pericardium was adherent, giving it additional support. The aorta was of natural size and thickness, but studded with minute points of atheromatous deposit. The other viscera presented no remarkable appearance.

Remarks. This case tended to establish the correctness of the observations of Dr. Thurnam, in his paper on Aneurism of the Heart, published in the *Medico-Chirurgical Transactions* for 1838. Dr. Thurnam had remarked, "that in one case only of all that he adduced, did rupture of the sac occur when there was adhesion between the pericardium and the aneurismal portion of the heart." In this case, the sac was entire, the point opposite to the influx of blood having the pericardium adhering to it. Indirectly, however, Mr. Tufnell regarded this circumstance as being the immediate cause of death, for the pericardium, being attached below to the apex of the heart, and united to the tumour above, prevented further dilatation of the sac, held it firmly down upon the coronary vein, and, by the compression thus induced, led to rupture of this vessel. This probably took place when the patient complained of weakness, at 7 in the morning. 2. Dr. Thurnam had called attention to the portion of the organ in which this lesion was universally developed; viz., the systemic side. He accounted for this in a two-fold manner; firstly, because

regurgitation of superabundant blood into the auricle, did not occur in the left or systemic heart; and secondly, he referred its occurrence to the physical condition of this part, the vital endowment of its blood, and the assimilation of its diseases to those affecting its arterial continuation. *Here we found the systemic side to have been the seat of disease.* 3. He regarded Aneurism of the Heart, as *par excellence* the disease of adult, as that of the arteries is of middle life. He considered the lesion to arise from rheumatic inflammation, which rendered the heart less able to bear the distending force of the ventricular systole, and to be thus connected with the young, from their predisposition to acute rheumatic disease. *In the present case, the patient had suffered from rheumatic attacks, and his age was but* 21. 4. Dr. Thurnam had shewn that the seat of true Aneurism of the Heart was either at the apex or highest portion of the base, those being the thinnest portions of the organ and the least able to withstand distending force. *The base was that affected here.*

Aneurism of the Apex of the left Ventricle, followed by Pericarditis. By O'B. Bellingham, M.D. Case. J. N., a servant, aged 50, was admitted into St. Vincent's Hospital, August 11, 1849. Three weeks ago, he complained of debility and oppression of breathing, which was relieved by treatment. Two days ago, hemiplegia of the right side with total loss of speech set in, the mouth being drawn to the right side. On admission, the countenance was pale and haggard, he was unable to speak, but was conscious and put out his tongue when desired, which was deeply coated with white fur, and drawn towards the affected side. The paralysis of the face had disappeared, and the hemiplegia had diminished. Since the attack, he had been unable to lie down from dyspnœa. On examination of the chest, signs of congestive bronchitis upon both sides were evident. The heart's action was strong: no valvular murmur was heard, but the sibilant and sonorous râles were sufficiently loud to mask it, even if it had been present. Radial pulse visible, locomotive, and intermittent. The patient died on August 15th.

Post-mortem Examination. On removing the calvarium, a considerable amount of fluid blood escaped. The veins of the brain were much congested, but there was no evidence of the rupture of any vessel, either upon the surface or in the substance of the organ. The ventricles contained the average amount of liquid. The brain was healthy. The anterior surface of the heart was coated with a thin layer of recent lymph; posteriorly, the opposed surfaces of the pericardium were connected by recent and friable adhesions. The heart was much enlarged, weighing 20½ ounces; the left ventricle predominated much over the right. Near its apex, the left ventricle presented a rounded prominence upon both surfaces. The parietes at this part were thinner and of darker colour than elsewhere. The ventricle was dilated at its apex into a rounded cavity, about the size of a small hen's egg, which was nearly filled with layers of fibrine, coloured with the red particles of the blood. The parietes of the pouch were thinned, in one place exceedingly so, and very friable, so as to be readily torn with the finger. The upper part of the cavity presented nothing abnormal. The walls of the sac were formed by the muscular fibres of the ventricle, and by the endocardium and pericardium. The sac did not open into the ventricle by a narrow mouth; it appeared to have been formed in a great measure by the yielding or partial dilatation of the walls of the ventricle. The mitral and aortic valves were healthy; the lining membrane of the aorta, near its origin, presented some patches of adventitious deposit. This case was interesting as an example of the manner in which nature strengthens the parietes in such cases, and postpones the fatal result. Pericarditis had been set up, and a layer of lymph had been effused, which, if the patient had lived, would have ended in adhesions between the opposed surfaces of the pericardium, and would thus have strengthened the parietes of the heart at the weakest point.

Successful Excision of the Elbow. By H. Thompson, M.D. J. McG. ætat. 13, of healthy appearance, was admitted into the Tyrone Infirmary, on the 19th of December, 1849, labouring under disease of the left elbow. The left arm was fixed in a very nearly straight position, the elbow-joint admitting of scarcely any motion, and any attempt to move it producing severe pain. The flexure in front was filled up, and all the bony prominences obscured by a swelling, which extended from the middle of the arm to the lower margin of the upper third of the forearm, increasing the circumference three inches beyond that of the opposite side. The integuments were adherent, rather pale, with blue veins ramifying over them, and the surface was smooth and uniform, except in the situation of the outer condyle, where a prominent deep red and soft elevation indicated the pointing of an abscess. From this, and from the site of a fistulous opening, which existed about two inches above the inner condyle, a gradually diminishing shade of redness diffused itself over the neighbouring parts. A fungoid granulation projected from the fistulous opening, which yielded a small quantity of thin discharge; and a probe, passed downwards and outwards towards the centre of the articulation, encountered a piece of bare and roughened bone. He suffered little pain when he kept the arm steady, but at night it frequently prevented sleep. The sensibility and mobility of the hand and fingers were perfect. His general health was pretty good, but his pulse was small and 120; and he never slept without perspiring slightly about the head.

Ten weeks before admission, he had fallen off a ditch; the arm bent under him with a cracking noise, and he suffered so much pain as to be disabled for that day. On the next, however, he was so far recovered as to be able to use the limb. In the evening, pain set in; and next morning the joint was swollen. From this, the disease went on; but nothing was done for it until about a month ago, when an abscess was opened, which pointed above the inner condyle of the humerus, and a small quantity of sero-purulent fluid was discharged without relief.

Operation. This was performed on December 28th. The boy was placed on his right side on a table. Chloroform was administered until he was perfectly under its influence, and the brachial artery compressed by a finger. Along the radial side of a line following the course of the ulnar nerve, Dr. Thompson made an incision four inches long, the centre corresponding to the articulation. From the middle of this, another incision was carried transversely outwards to the extent of three inches, traversing the abscess, which contained a straw-coloured sero-purulent fluid, and laying thus open the cavity of the joint. The two triangular flaps thus formed were then dissected off the bones, and the soft parts cleared away from the olecranon, which was cut off at its base by means of bone-forceps. About half an inch more of the ulna, which was in a carious state, was then removed, together with the head of the radius, the cartilage of which was beginning to ulcerate. The arm now admitted of flexion, and, by bending it up, the end of the humerus was thrown out of the wound. This was examined, and the trochlea found completely destroyed, an abscess occupying the cancellar structure of the bone, which contained a loose piece of dead bone, and communicated by a large opening with the cavity of the joint. The cartilage covering the capitulum was healthy; and posteriorly a carious spot, about the size of a shilling, was found in the fossa which lodges the olecranon. The bone was divided above this carious spot, by means of a narrow saw passed in front and worked backwards. This completed the operation, which occupied about fifteen minutes, during the whole of which time the boy was kept under the influence of chloroform. No vessel was required to be tied. The arm was placed in the flexed position on a bent tin splint; and subsequently, when suppuration had take place, and the swelling and inflammation was beginning to subside, a gutta percha case was adapted to the front of the limb, so as to keep it flexed to about half a right angle, and admit of the wound being dressed without

removal. The wound healed by granulation, and a firm and healthy cicatrix was the result. He had, on April 19, 1850, perfectly regained the power of flexion of the limb, and could perform pronation and supination to a sufficient extent for any useful purpose. The unnatural effects which had resulted were, a degree of over-extension, or backward bend, to the extent of about the eighth of a right angle, and a degree of abduction of the fore-arm occurring during flexion, and produced by the action of the supinator longus, to the extent of about an angle of 45. The bones appeared to be connected by a condensed fibrous tissue, about half an inch in extent. The limb was three-quarters of an inch shorter, and the circumference at the elbow half an inch greater than the opposite : the muscles of the arm were smaller than those of the other, but there was no difference in those of the fore-arm.

April 28, 1850.

Andrew Ellis, Esq., in the Chair.

Peculiar Accident of Shoulder-joint. Dr. Jacob directed the attention of the Society to a case, reported in the *Medical Gazette* of the 6th of April, in which the scapula seemed to be thrown out from the ribs, so as to project from the patient's back. Mr. Adams, of the London Hospital, regarded it as a dislocation of the scapula, in consequence of its escaping from beneath the edge of the latissimus dorsi. It appeared to be a rare accident ; and Dr. Jacob's object was to suggest what was the real nature of the injury, which was, in his opinion, so very manifest, that he was at a loss to conceive how it could have been mistaken. The same journal, for 20th April, contained an account of an analogous case by Mr. Rose, of Swaffham.

The above writers seemed to consider this remarkable displacement as nothing more or less than a dislocation of the inferior angle of the scapula from beneath the latissimus dorsi—a notion which was erroneous, because no such use could be assigned to the soft structure of such a muscle as the latissimus dorsi, as that of keeping the scapula *in situ*. Were this the case, very slight efforts would be sufficient to dislocate the bone, and no muscle would be capable of withstanding the stretching and pressure made upon it, nor would the pain be tolerable. Many years ago, a case came under his observation, on a careful examination of which, the real nature of this accident struck him with much force. A man, who was carrying a heavy board upon his shoulder, suddenly slipped and fell down. He complained of his shoulder, but the lower extremity of the scapula was elevated from the ribs, drawn towards the spine, and depressed. The moment, however, the scapula was pressed up into its proper situation, the coracoid process, previously lowered, went into its usual place ; and he had therefore no doubt, that the coraco-clavicular ligament had given way, and that the scapula, and along with it the arm, went down under the weight of the limb.

After an address from the President, the Society closed its meetings for the Session.

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